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IVAN EDWARD PODHRAŠKI

THE PROFESSIONAL DEVELOPMENT OF TEACHERS'

CLASSROOM USE OF ICT THROUGH MENTORING

DOCTOR OF EDUCATION (EdD)

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ABSTRACT

This study is concerned with the effective mentoring of teachers. It is qualitative by nature and is organised as two case studies; the first being conducted in a primary school and the second in an inner city mixed comprehensive school.

The study considers the process of mentoring as a mechanism to build on skills developed by New Opportunities Funding (NOF). It therefore considers the confidence and competence of teachers in using Information Communications Technology (ICT) in their teaching. Two main questions were posed:

- Can mentoring improve staff attitudes towards the use of ICT in the classroom?
- Can mentoring be used as a tool to enhance CPD in ICT and hence encourage staff to increase and develop their use of ICT in the classroom?

Data was collected over a period of three years in the form of field notes, semi-structured interviews, documentation, pupil group interviews, book scrutiny and classroom/lesson observations from teachers (the mentees), their mentors and their pupils.

Key Themes Emerging from the Data Analysis

The analysis of data suggested mentoring as an important aspect of a Continuing Professional Development (CPD) programme in ICT. The second case study developed the ideas that emerged from the first case study and supported reports that suggested the need to develop the knowledge and skills of teachers in their use of ICT.

The model of mentoring developed for use in both cases incorporated the requirements of the participants with evidence showing that where CPD met the needs of individual participants then there was also a progression in the professional development of those participants.

The study concludes with suggestions for a model of mentoring that was found to be successful in the professional development of teachers in the area of ICT. It further suggests that this model may have implications in other areas of professional development.

CHAPTER ONE

This first chapter puts my research into the context of my interests in mentoring on a personal level and my needs on a professional level as a headteacher and co-ordinator of the school's CPD programme. The chapter continues to discuss the outcomes of training provided by the National Grid for Learning and funded by the New Opportunities Fund, citing evidence taken from reports compiled by the Office for Standards in Education. The chapter concludes by discussing the needs for training in ICT as identified in the schools that took part in this research.

Introduction

Rationale

Early Beginnings

Since beginning my teaching career in the late 70s the concept of staff development has changed considerably. In those early years I remember perusing the list of courses that were delivered to the staffroom by the school secretary at weekly intervals, selecting the ones that I thought appealing and applying for them. The headteacher never questioned my choice of courses, certainly never vetoed my application of them and supported without reservation my application to the Local Education Authority (LEA) for funding to follow my first Open University course. The situation was not to last and by the time I became a headteacher myself in 1990 Local Management of Schools, otherwise known as LMS, was about to turn the management of schools into a business concern where budgets had to be balanced and the spending of public money accounted for. It is my opinion that as headteachers we were expected to perform these tasks within a climate whereby schools were greatly underfunded. It was at this time that I became involved in mentoring in Initial Teacher Training (ITT), an involvement that evolved into an interest. Through reading, I recognised the international significance of this concept, a concept that expanded in education as well as industry (Gray and Gray, 1986; Jacobi, 1991) and became the subject of much

discussion both in the USA and the UK throughout the 90s (Bey and Holmes, 1990, 1992; McIntyre et al., 1993).

Development of Mentoring

Whether the development of mentoring in education was a by-product of the success of mentoring in industry and other areas, or whether its development was in response to limited school budgets is beyond the scope of this study. It was certainly true in my own position as a headteacher, that I welcomed the concept of mentoring as it was a means of providing the professional development of my staff by using the expertise of those employed by the school and by so doing saving a considerable amount of money on our training budget. The professional development programme planned for my staff was an important factor in balancing budgets but even more important was the effect that such training had on more effective classroom performance, the quality of teaching and increased pupil learning and success. It seemed that more effective classroom performance and quality of teaching as a result of professional development would be relatively straightforward to observe through planned, regular monitoring exercises. Pupil outcomes, however, were not so straightforward to observe, particularly over the short term with any increase in pupil learning and success being attributable to more than one influence.

Interest in Mentoring

During my time as a headteacher, I became interested in the work carried out by the local Higher Education Institution (HEI) and became involved in the selection and mentoring of its students. I also joined a mentoring group that was co-ordinated by the local HEI and consisted of HEI tutors and local headteachers. My mentoring experiences were extended and developed with the appointment of a teacher to my staff on the Graduate Training Programme and an increased involvement in the mentoring of student teachers accepted by my school. My interest in the training of teachers and the professional development of serving teachers led me to conduct a

small scale research project as part of my work on the Open University MA module *E830, Mentoring* on why associate teachers fail a teaching experience. I was interested in why a particular associate teacher had failed a previous teaching experience and yet had proved herself to be a very good student while repeating the experience at my own school. The project deepened my interest in the mentoring process and, together with the influences of my Open University course, I was attracted to the idea of exploring mentoring as a means of professional development.

Information Communications Technology

In the early 1990s the use of computers in schools was increasing and this was coupled with a major government drive to ensure that every teacher would achieve competence in using ICT by the year 2002. The DfEE (1997) advocated the merits of ICT in education and clearly exhibited their commitment by injecting large sums of public and private money into ICT in schools as it believed that ICT had an important role to play in the education of the present and future generations. Schools were required to carry out an audit of the skills and knowledge in ICT of its staff, the results of which would release New Opportunities Funding (NOF). NOF was allocated to a school to enable it to embark on the National Grid for Learning (NGfL) initiative. Research showed that although teachers did develop computing skills they lacked the skills to be able to deal with technical problems and there was also a lack of confidence in using ICT in subject teaching (Deavoll, 2000; Dick and Reynolds, 1999). The 2002 deadline set by the Government has since passed and according to OfSTED (2004c) the match of teachers to the demands of the ICT curriculum is less than satisfactory and there is often an *"inconsistency in teaching approaches."* (OfSTED 2004c, p29). OfSTED (2004c) continued to report that in instances where ICT was used as a teaching tool the activities did not sufficiently challenge the pupils. It can be seen that while NOF made a significant contribution to improving teachers' ICT skills, these skills needed even further development.

Advanced Skills Teachers

One of the main findings of OfSTED (2004c) was that Advanced Skills Teachers (ASTs) have a positive effect on the quality of teaching and learning in the schools within which they work. It further reported that this was achieved partly by working alongside and advising individual teachers and in so doing an atmosphere is created in which staff work together productively. The report suggested that effective managers harness the strengths and energies of their staff in order to introduce changes that lead to better teaching and higher standards. The implication here is that a programme of ASTs mentoring staff is having a positive effect in schools and therefore a consideration for mentoring to be included in programmes of professional development should be contemplated.

A Two-site Research Project

My interest in mentoring spanned the professional development of teachers across Key Stages 1 to 4 and as such the research project was conducted on two sites; a primary school and a secondary school. My own school, being a primary school, provided the setting for the first case, while a secondary colleague gave me permission to conduct the second case in his school.

As with the majority of schools within the United Kingdom today, training budgets are limited and yet new innovations are presented to schools with the expectation that staff become fully trained and competent. One such innovation introduced into the second case study school was the introduction of interactive white boards (IWBs). While some staff welcomed this there were others who were not fully confident or competent with the use of a computer and therefore saw the use of IWBs within their teaching as a hurdle which they needed to overcome.

As already discussed above, OfSTED (2004c) found that teachers were not fully conversant with the use of the computer in their teaching even though NOF training had been delivered. This may be attributed to a number of factors including ineffective NGfL training, poor preparation in ICT of student teachers and teachers'

anxiety with ICT. It seemed that the one-to-one support offered by ASTs could be a model for improving teachers' ICT skills.

I believe, through my experience as a headteacher, that to be effective, professional development needs to be based on continuous improvement based on the goals of the institution within which the training takes place with a close consideration of the performance of teachers and the achievement of pupils. Being aware of certain needs of teachers in the second case study school, I believed that there was a possibility of enriching the learning of staff and by so doing obtain the benefits of technology, in this instance it was the use of IWBs, within the classroom setting. I felt that the initial training for staff on the implementation of IWBs could have been complemented with activities and follow up sessions possibly within the classroom. My own belief was that the initial one-off school based in-service training session on the IWB had not been particularly effective. I remember my own first experiences of using an IWB, while putting into practice what I had learnt on a one-off training session I found that new questions arose. This led me to believe that some mechanism to address these questions should have been built into the training. I was aware that my needs in developing confidence and knowledge in the use of the IWB were different to other teachers; some were developing their skills and knowledge of using the IWB at a faster rate than me while others were asking me for help. From my own experience of in-service training in the use of the IWB, I would have welcomed the provision of ongoing support in order to help me master this new technology while offering opportunities to explore new techniques of teaching.

My experience as a headteacher, and as a recipient of training in the skills and knowledge of the IWB, led me to believe that training should be provided that moved away from the 'one-off' training session, with a further stipulation that 'time' should be built into the training programme.

As teachers, we spend a great proportion of our time learning in a new technological era where change and progress is possibly moving at a faster rate than our learning of these new technologies. At the same time, there is within our staff rooms a wealth of expertise and therefore the resources to provide staff professional development. A situation could be developed whereby our own self-directed personal learning could

be supplemented by the support of our colleagues but this would be reliant on time constraints. This would mean, however, that this style of CPD would need to be supported by the institution and time allocated for it to take place.

If we are to be considered as the stimuli behind the success of our pupils then our own individual requirements for mastering new innovations need to be addressed. It should also be the case that our schools create an environment that encourages teachers to experiment and explore with the confidence that there is a system of support to enable them to learn and develop professionally. This would suggest that schools consider the investment of time within their programmes of CPD by guaranteeing sufficient time to facilitate follow up sessions to initial training.

The first case study took place in the primary school where I was employed as the headteacher. Varying degrees of knowledge and competence in ICT were evident amongst the staff and there was a lack of awareness of available software and how the software that was in use in school could be used effectively in the classroom. A situation was created whereby staff mentored one another on a one-to-one basis with one of the pair being more competent in the area of ICT than the other. A positive outcome ensued with the result of an increased use of ICT within the classroom, and evidence of improved pupil learning. The second case study maintained the notion of mentoring on a one-to-one basis as a means of enhancing programmes of CPD in ICT and by preserving the style of mentoring and the curriculum area in which the mentoring took place, a continuum existed across both case studies.

The situation of the second case study institution was that the use of IWBs would be introduced into the English department at the beginning of the autumn term 2005. Two teachers had already expressed concerns about their lack of competence in the use of ICT and were therefore anxious of the prospect of using technology within the classroom in the form of IWBs, particularly if they were to use these new pieces of technology in front of a class of pupils who were likely to be more competent than themselves in ICT. One possible solution was to introduce a system of mentoring in order to create an environment whereby these members of staff would develop a knowledge and confidence in the use of IWBs within their teaching.

Within the school there already existed a system for mentoring students from the local HEI and a number of Graduate Trainee Teachers (GTPs) and the school was fortunate to have on its staff an AST who was involved in the mentoring of both types of teachers in training. In addition to her mentoring work the AST was involved in the production of IWB resources for the use of teachers in schools throughout the LEA. My initial diary notes recorded that the AST worked predominantly on a one-to-one basis with members of staff as she found this to be a more effective way of working. In their study, Harnish and Wild (1994) examined the use of formal mentoring as an instructional development approach and considered the effects of one-to-one mentoring as an intervention strategy. They found that

“in addition to individual growth at the personal and professional levels, teaching practices can be expected to change as a result of working closely with another professional who approaches problems differently and can suggest or even model alternatives to existing practice.”

(Harnish and Wild, 1994, p191)

It appears that it is the *“individual growth at the personal and professional levels”* (Harnish and Wild, 1994, p191) that the teachers at the second case study institution were in need of, but this assumption needed to be verified through teacher interview at the onset of the data collection. It is encouraging to note that Harnish and Wild (1994) suggest that a change can be expected through working with another professional, which in the case of the second case study institution my diary notes showed evidence that the work of the AST had stimulated the teaching and learning of those teachers with whom she had worked. A further benefit to the school by using the AST in a mentoring situation would have been, as suggested by Steger (2000), a saving on the school’s training budget.

This research project explored the utilisation of mentoring as a means of enhancing the professional development of teachers and although it would have been valuable to have established the level of effectiveness of mentoring on pupil success, this aspect was beyond the scope of this study. ICT was the chosen medium through which the

mentoring took place as the development of ICT was perceived, through the rationale, as a need of both schools. In turn, the following research questions were posed:

- Can mentoring improve staff attitudes towards the use of ICT in the classroom?
- Can mentoring be used as a tool to enhance CPD in ICT and hence encourage staff to increase and develop their use of ICT in the classroom?

CHAPTER TWO

As an introduction to the literature review, Chapter 2 begins by discussing the concept of continuing professional development (CPD) as a means of improving the professionalism of teachers. The section then considers teachers' attitudes to CPD suggesting reasons for their reluctance to train and takes into account recent developments to encourage teachers' acceptance to train. The chapter continues by distinguishing between 'mentoring' and 'coaching' before providing a definition of the term 'mentoring'. The chapter concludes with a summary of the model of mentoring as adopted for this research topic.

Literature Review

Teachers as Learners

"Provided one has the requisite prior knowledge, motivation is the most critical factor in learning. Ideally both intrinsic motivation - the disposition to follow one's interests, acquire knowledge and become more capable - and extrinsic motivation - the confidence that the goals of learning are achievable and valuable - should be present."

(Eraut, 1999, pix)

The nature of teaching today demands that teachers become involved in their continuing professional development, a development that spans the length of their careers. The way that particular needs may be met will vary according to the circumstances in which teachers find themselves, their personal and professional needs and requirements that are placed upon them by current innovations, legislation and changes to educational policy. The growth in teacher learning over the span of their careers can be considered, therefore, to result from opportunities that may be *"sometimes natural and evolutionary, sometimes opportunistic and sometimes the result of planning."* (Day, 1999a, p1). Hargreaves (1994) believes that during their

careers, teachers will participate in a range of formal and informal activities of review, renewal, enhancement of thinking and practice and that these will be determined by personal and professional objectives, individual and collective. There are ten precepts, according to Day (1999a), in which the context of professional learning and development takes place - they are:

1. Teachers are a schools' greatest asset and as such support for their well being and professional development is an integral and essential part of efforts to raise standards of teaching, learning and achievement.
2. Teachers must demonstrate their own commitment towards and enthusiasm for lifelong learning.
3. Continuing, career-long professional development is necessary for all teachers in order to keep pace with change and to review and renew their own knowledge, skills and visions of good teaching.
4. Learning from experience alone will ultimately limit development.
5. Teachers' development will be the result of an interaction between their life histories, their current phase of development, classroom and school settings in addition to the social and political contexts in which they work.
6. Teaching is a complex process influenced by the reality that students have different motivations and dispositions to learning and are of different abilities and backgrounds. Successful teaching, therefore, will always demand both intrapersonal and interpersonal skills, and personal and professional commitment.
7. Content and pedagogical knowledge of the curriculum cannot be divorced from teachers' personal and professional needs and moral purpose.
8. Teachers cannot be developed (passively). They develop (actively). It is vital, therefore, that they are centrally involved in decisions concerning the direction and processes of their learning.
9. Successful school development is dependent upon successful teacher development.
10. Planning and supporting career-long development is the joint responsibility of teachers, schools and government.

It can be said, without argument, that the continuing professional development of teachers is an essential ingredient of their careers and a tool for ensuring the maintenance and enhancement of the quality of teachers.

Liebermann (1996) is of the belief that continuing professional development

“moves teachers beyond simply hearing about new ideas or frameworks for understanding teaching practice, to being involved in the decisions about the substance, process and organisational supports for learning in school, to finding broader support mechanisms - such as networks or partnerships – that provide opportunities and innovative norms from groups outside the school.”

(Lieberman, 1996, p187)

and continues to explain that here are four settings in which learning occurs:

1. direct teaching (for example; conferences, courses, workshops and consultations),
2. learning in school (for example; peer mentoring and coaching, critical friends quality review, appraisal, action research, portfolio assessment and working on tasks together),
3. learning out of school (for example; networking, school-university partnerships, professional development centres and informal groups) and
4. learning in the classroom (for example; student response).

Implicit in these four settings is the importance of CPD being

- organised both in and away from the institution and
- learner-focused rather than training-focused

and that these should be taken into account when planning and delivering programmes of continuing professional development.

The following figure, taken from Day (1999a), clearly demonstrates the interconnection of factors that contribute to the quality of professional learning - the personal, external and internal influences all act together to provide effective learning.

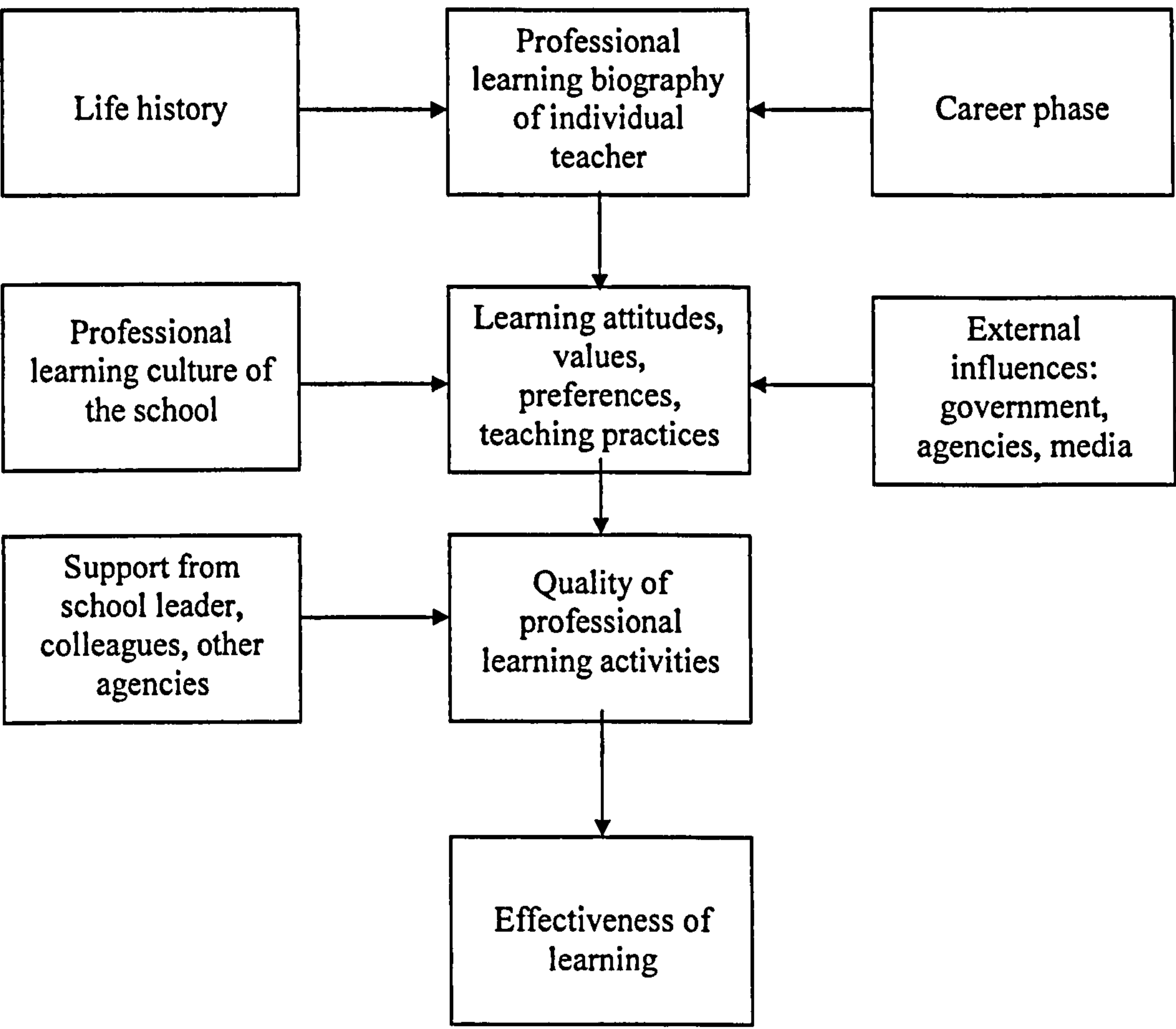


Figure 2.1 Factors Contributing to the Quality of Professional Learning (from Day, 1999a, p4)

The Extended Professionalism of Teachers

The role of the teacher pre-National Curriculum was perceived to be one that placed emphasis on moral training and instruction (Hoyle, 1969) in which the teacher was considered to be an authority in the subject taught, furthermore, teachers decided what to teach and how to teach it. The organization and uptake of CPD was more infrequent when compared to the CPD activities of today’s climate and teachers rarely

became involved in non-teaching duties such as analysing pupil achievements to inform target setting, lesson planning and delivery of the curriculum. This state of affairs was termed as the 'restricted professional' by Hoyle (1974) who explained that the traditional teacher's core professional activities were focused on immediate responsibilities and classroom concerns.

The role of the teacher post-National Curriculum shows a different picture. The role of the teacher changed to the extent that it raised questions about the teacher's autonomy, control and professionalism (Hoyle, 1974; Pollard et.al.1994). These changes, according to Hoyle (1974) were the result of educational changes in curriculum, pedagogy and the organization of teaching and learning, as well as changes caused by broad socio-political trends in the society. The result being that the teacher's role was no longer limited to the classroom instead the teacher was required to acquire a wide range of knowledge and skills to cope with the increasing responsibilities demanded from teachers. For example, lesson observation and teacher appraisal became common place in schools with the outcome that planned CPD would be undertaken by teachers in order to improve their practice and hence the learning of the pupils they taught. This is what was termed by Hoyle (1974) as the 'extended professional', and as a consequence

"changes have also been made to school cultures, resulting in the breaking down of individualistic cultures where teachers spent much of there working lives separated from one another, to more collaborative situations, which involve interdependency and team-work, more participatory decision-making processes and a commitment to shared goals about teaching and learning."

(Le Cornu, 2005, p356)

Hairani et al. (2002) explains that in extended professionalism, the teacher

"acquires skills from a mediation between professional experience and educational theory. Teaching is considered a rational activity in which classroom events are perceived in relation to school policies and goals. There is greater collegial collaboration in planning and

teaching whereby methods of teaching are compared with those of colleagues and with reports of practice. Collaboration in the school's process of decision making is also encouraged."

(Hairani et al., 2002, pp65-66)

The implication here is that a key feature in extending one's professionalism is collaboration between colleagues within the context of personal and school goals with the expectation that teachers will constantly upgrade their professional knowledge through CPD. Hoyle (1974) further suggests that the extended professional perceives education in a broader social context through a high involvement in non-teaching duties such as extra-curricular activities, research and sometimes, community services. This notion would suggest that teachers have become more accountable for their actions to others such as headteachers, parents and colleagues and consequently their autonomy is somewhat lessened. On the other hand, by becoming more involved in the school's process of decision making and the collaboration with colleagues on planning and teaching activities has meant that teachers have some influence or control over the school-wide, rather than individual, work situation (Hoyle 1974). However, Constable (1995) warns that with the situation of teachers becoming extended professionals there is the probability of an increased demand on teachers to complete administrative tasks to a strict timetable.

Both case studies in this research deal with the teacher as the extended professional in terms of curriculum and pedagogy, a change in their professionalism brought about by the introduction of the computer into schools and the ensuing government policy. In the first case study, teachers were encouraged to evaluate computer programmes and how their use could enhance the teaching and learning that took place in their classrooms. The second case study again responded to an expected change in a teacher's professionalism resulting from a response to the introduction of a new technology, IWBs, introduced into the classroom and bearing some influence on the teaching and learning that was expected to take place. The second case study placed a greater emphasis on pedagogy and student learning. In both case studies participants were encouraged to become involved in collaboration, this being a key feature in extending one's professionalism (Hairani et al., 2002). Participants were additionally involved in addressing their own goals (an improvement in ICT skills and pedagogy),

as well as those of the school (introducing IWBs into the classroom and the teaching practices of teachers). Considering the fact that the teachers participating in this research project were involved in collaboration with colleagues within the context of personal and school goals while updating their professional knowledge through CPD (Hairani et al. (2002)) they may be considered as extended professionals.

CPD as a Vehicle to Improve the Professionalism of Teachers

The Meaning of Continuing Professional Development

CPD is seen to be of great importance in the life of schools, contributing to professional and personal development for staff and to improve teaching and learning. CPD is defined as consisting of

“all natural learning experiences and those conscious and planned activities which are intended to be of direct or indirect benefit to the individual, group or school, which constitute, through these, to the quality of education in the classroom.”

(Day, 1999a, p4)

However, Wilson et al. (2006) point out that the definition of CPD differs between researchers due to the fact that the emphasis for CPD in the UK has shifted

“from a focus on teachers’ individual needs to that of meeting systematic needs.”

(Wilson et al., 2006, p2)

They continue to explain that this shift in emphasis is in response to the changes in Government policy regarding standards and accountability and the devolution of funding to schools. It is not surprising, therefore, that Evans (2002) informs readers that the concept of teacher development is unclear. She found that

“definitions of teacher development are almost entirely absent from the literature: even those who are generally considered leading

writers in the field do not define precisely what they mean by the term."

(Evans, 2002, p124)

However, I have presented the above definition of CPD, provided by Day (1999a), as I believe it best fits the CPD activity that was undertaken during this research project which provided staff development on an individual and departmental level and constituted to the improvement of teaching and learning in the classroom.

Teachers' Attitudes to CPD

A teacher's view of CPD is provided by Cordingley et al. (2003a), a review involving over 2500 teachers from primary, secondary and special schools. The key features of worthwhile CPD were perceived to be relevance and applicability to school/classroom settings and although it was reported that most teachers were satisfied with their CPD over the previous 5 years, negative attitudes towards CPD were related to CPD that provided a 'one size fits all' provision. In Cordingley et al's. (2003a) review, teachers' attitudes towards CPD were developed out of national, local and school initiatives coupled with teacher's career stage, age, subject affiliation and the age range of the pupils they taught. Older teachers were more ready to accept CPD that was less related to their individual needs while younger teachers and NQTs identified the need for CPD that met systemic needs as well as opportunities that met individual development.

Obstacles to Participation in CPD

Research undertaken by Goodall et al. (2005) suggested barriers to teachers' participation in CPD, some related to the teachers themselves while others related to factors outside their control. The factors were:

- Teachers did not want to take time out. (teachers' and headteachers' reponse)

- Cost. (CPD leaders' response)
- Lack of time. (teachers' and CPD leaders' responses)
- Teachers being taken out of the classroom. (headteachers' response)
- Teachers' attitudes. (Headteachers' and CPD leaders' responses)

It was found that teachers were reluctant to spend time away from their classrooms because in addition to them taking their work in the classroom seriously, they considered it unreasonable to place extra pressure on colleagues, who would have to cover their lessons. Rarely did CPD leaders mention the time spent away from the classroom as an obstacle to CPD participation, they considered cost to be the deciding factor. The cost, they explained, was three-fold: the cost of external provision; the cost of travel and the cost of supply cover. However, headteachers were aware that teachers were reluctant to spend time away from the classroom with some headteachers suggesting that these teachers were the most committed. The research also reported that there were headteachers who considered a teacher's time away from the classroom as being very disruptive to pupils' learning and questioned the balance between the value of CPD and the valuable learning experiences of the pupils left behind.

Time is often considered as an obstacle, or even an excuse, for much of what we fail to do. It is not surprising therefore, that time is considered to be a reason for the non-participation in CPD. CPD leaders in the research of Goodall et al. (2005) found that time was a restricting factor in both their work as CPD leaders and that of the participation of teachers in CPD. They, in agreement with the teacher respondents, believed that even when time was given to participate in a CPD there was little, or no, time for reflection and working with peers. Implicit in these responses is the notion that no time was dedicated for sustained development. Clearly, if time was dedicated then this would also have a cost implication as discussed above. In their review, Cordingley et al. (2003a) also found that in many of the studies they reviewed, time was also a concern when considering participation in CPD. They reported that

"time for discussion, planning and feedback, and access to suitable resources were a common concern in many of the studies."

(Cordingley et al., 2003a, p4)

Implicit in Goodall's et al. (2005) research was that the attitudes of teachers, according to headteacher and CPD leader respondents, was a major determining factor for non-participation of CPD. They suggested that some, but not all, teachers:

- did not wish to take advantage of CPD opportunities,
- were reluctant to acknowledge a need for development,
- did not appreciate the opportunities offered to them through CPD,
- did not consider CPD in terms of their own personal or career development, seeing it as more school based,
- resist CPD as they see it as them admitting that they need help.

Support from school leaders may be considered as an obstacle to participation in CPD. Whether teachers undertake CPD on a compulsory or voluntary basis, it is imperative that they obtain the full support of the senior leaders and the organisational situation in which they find themselves. It is suggested in the research conducted by the Professional Associations Research Network (PARN) (2008), that if teachers

"are compelled [by headteachers] to complete CPD, but their organisational situation does not allow for such activities, then there will be a high proportion of members who will effectively default on their obligations through no fault of their own."

(PARN, 2008, p9)

The influence of school managers on a teacher's professional development was highlighted by OfSTED (2006) in their report on the provision of CPD in effective schools. They reported that in most of the schools taking part in the study the senior leaders accurately identified the priorities for development which in turn *"had a strong influence on the opportunities created for staff development."* (OfSTED, 2006, p6). In those schools where individual staff development arose from performance management interviews, it was found that in one school the

“performance reviews were highly structured interviews which required each member of staff to articulate their needs under different headings.”

(OfSTED, 2006, p6)

Implicit in this finding is that the professional development of teachers in the surveyed school was directed, and therefore influenced, by the school managers. The influence by school management and leadership is critical, argues Fullan (2005b), if initiatives are to become sustained and embedded in institutional practice and culture. In support of Fullan (2005b), Condie et al. (2007) found through their research that where CPD was undertaken to introduce the initiatives of ICT into schools

“most progress has been observed where leaders demonstrated commitment and supported staff in achieving the strategic aims of the school.”

(Condie et al. p20)

Furthermore, if school managers do not provide the essential equipment in order for teachers to undertake successful and effective CPD, then the outcomes of the course will not match the daily working environment of the delegate. For example, if a teacher attends a course on the use of the IWB in the classroom, may find that the one in use at the work place is not compatible, a situation that was highlighted in my research. In this instance, a feeling of discouragement may be felt on behalf of the course participants and therefore the CPD activity is deemed ineffective.

Bolman and Deal (2003) place an importance on school managers creating “arenas” (Bolman and Deal, 2003, p377) or collaborative opportunities for staff to “forge divisive issues into shared arguments.” (Bolman and Deal, 2003, p377). The notion of school managers providing opportunities for staff to engage in productive conflict is suggested by Fullan et al. (2004) as being essential if school reform is to take place. Perkins (2003) refers to such social exchanges of ideas as progressive interactions whereby quality knowledge and social cohesion of staff is maximised. On the other hand, Perkins (2003) describes regressive interactions as those whereby staff become involved in shallow collaborations that avoid conflict with the result of staff

withdrawal. Fullan (2005b) explains that regressive interactions occur more frequently because reluctance requires less skill and comes more naturally while collaboration amongst staff is difficult and challenging. He states that

“it is easy for people to avoid or fail to persist in the deep, cognitive, emotional and political learning cycles that will be needed to sustain the groups’ focus on complex new challenges.”

(Fullan, 2005b, p101)

Fullan (2005b) further adds that under stressful conditions, such as school change, teachers are even more likely to revert to regressive behaviours. To overcome the reluctance of resisters to participate in CPD, Perkins (1992) suggests that the challenge of school leaders is not to persuade staff of the benefits of taking part but to help them experience the benefits of CPD. Perkins (1992) states that action precedes understanding which suggests that school leaders need to create CPD experiences for staff whereby they will be encouraged to ‘do’ rather than ‘talk’. In other words there should be a shift from what is taught to what is being learned a principle referred to by Perkins (2004) as the “*knowledge arts*” (Perkins, 2004, p14) where the acquisition of knowledge is more meaningful when the recipient is actively engaged in making knowledge through communicating, critical and creative thinking and problem solving.

Recent Developments to Encourage Teachers’ Participation in CPD

Major changes in education during the late 1980s and 1990s brought about a greater need for teachers than ever before to participate in CPD. The affects of such changes were felt by all those involved in the teaching of pupils, the consequence being that they were impelled to update their knowledge and skills through numerous retraining programmes. Differing models of CPD were provided depending upon the style of training required, for example, in school (INSET), off-site, cascading, communities of practice, and more recently an increased use of coaching/mentoring and action research.

During this period there were a wide range of initiatives that required teachers to engage in CPD. The National Curriculum, introduced in the late 1980s, more often involved teachers attending off-site training courses followed by cascading upon returning to school; the Local Management of Schools (LMS), introduced in the 1990s, completely changed the role of the headteacher, school administrative staff and governors with increased autonomy and accountability. Such a dramatic change and addition to the roles of teachers, headteachers, school administrative staff and governors made the attendance on retraining courses compulsory. Even if staff managed to escape the retraining programmes provided for the National Curriculum and LMS, it was impossible to avoid NOF training; the computer had arrived and was here to stay. There has been much discussion about the successes and failures of the training provided by the NOF; while NOF training dramatically increased the number of teachers using ICT, particularly the internet (Becta, 2004), the overriding criticism has been that it provided one-fits-all training and therefore paid little attention to the learning styles and individual needs of teachers (Conlon, 2004; OfSTED, 2004a; OfSTED, 2004b; TTA, 2002). Additional routes into teaching were introduced into the Initial Teacher Education (ITE) programme during the 1990s with the Registered and Graduate Teacher Programmes (GTP) demanding associate teachers (the trainees) to be trained in order that they attain a set of published competences, later to be renamed 'standards' (Kirk et al., 2003). It could be argued that the greatest of educational initiatives to be introduced by the Government during the 1990s was the inspection of schools under the regime of OfSTED inspectors. Huge sums of money have been spent on the training of OfSTED inspectors and the school workforce and the evolving nature of these inspections has resulted in the continual training of all those involved.

Implicit in these initiatives is the notion that educational change is constant and therefore impacts upon the CPD of teachers and the necessity for the profession to receive ongoing support through retraining particularly at the implementation stage of any new initiative:

"No matter how much advance staff development occurs, it is when people actually try to implement new approaches and reforms that they have the most specific concerns and doubts. It is thus extremely

important that people obtain some support at the early stages of attempted implementation."

(Fullan, 1991, p85)

How Teachers Change Their Practice

Teachers do not stand alone in educational institutions; although they may express their own individual needs for professional development they also share the collective responsibility to ensure the holistic continuing improvement of the organisation and its students.

Fullan (2002a) explains that in order for schools to become effective they should professionally develop the whole staff through:

- developing teachers' skills,
- improving the quality of ongoing interaction among staff,
- achieving a coherent focus,
- mobilizing resources,
- developing school leadership.

and this is made possible at three levels, what Fullan (2005a) calls 'The Tri-Level Solution', these being:

- the school/community level,
- the LEA or district level and
- the state or national policy level.

It is clear, from the above, that effective school leaders are the key to how teachers change their practice. However, they are influenced by individual, school, LEA or national priorities when developing their schools' programmes of CPD. Indeed, it can be argued that in order that the outcomes of CPD become embedded and sustained into the structure of a community, the support of leadership is essential. This argument is supported by Condie et al, (2007), who state that

“while innovations often begin with a key stage or subject department, they require a whole-school commitment if they are to become embedded in the daily experience of pupils, providing continuity and coherence across the years. While champions can, and often do, lead the way, new developments need leadership and strategic planning to ensure sustained changes in practice.”

(Condie et al., 2007, p3)

Research undertaken by Hustler et al. (2003) indicated that teachers, when asked to rate a number of items that might affect their access to CPD, rated senior management and school policy to be the most likely to facilitate access while financial cost and workload were the most likely factors to inhibit access. However, while some of their respondents praised the support from senior staff, there were others who felt that they were prevented from attending courses by senior management. It appears, therefore, that school leadership is the main determining factor in helping teachers to change their practice through CPD. This observation is supported by the work of Day et al. (2000) whose study of leaders in twelve English schools identified that those headteachers who were considered as being effective constantly supported the professional development of their teachers. Similar findings were evident in the work of Leithwood et al. (1999) whose study of leaders in Canadian schools indicated that effective school leaders spend their time developing people, building commitment to change while creating the conditions for growth in teachers. Implicit in the understanding that school leaders influence the CPD of teachers, is the understanding that they also have the ability to change the environment in which teachers work. It is important that school leaders take note of the warning provided by Fullan (2002a); he advises

“never send a changed individual into an unchanged environment.”

(Fullan, 2002b, p7)

The danger here is that if a teacher changes following professional development, then the environment in which that teacher works also needs to change in order to avoid the teacher developing a negative attitude towards CPD. If teachers are to change their practice, it is important that they are supported and encouraged throughout the process

of CPD in order that it is a positive and long lasting experience that will in turn improve the teaching and learning that takes place in the classroom for the benefit of the pupils. Furthermore, Condie et al. (2007) suggest that

“like pupils, teachers learn in different ways and they need to be able to access support as and when needed, at times that are convenient and in formats that meet their own preferences for learning, where there are multiple ways to access personal professional development, the outcomes have been positive.”

(Condie et al., 2007, p63)

Teacher Professional Development

“Continuing professional development is essential if teachers are to remain up to date in their knowledge of the curriculum, wise in their selection and use of a repertoire of pedagogical skills, committed and enthusiastic about their work and the students they teach, self confident, and clear about their purposes.”

(Day, 1999b, p221)

Day (1999b) not only states the essential nature of CPD but also the importance of the commitment and enthusiasm of its participants, a notion supported by the research of PARN (2008) the findings of which suggest that the outcomes of CPD very much depend on *“the amount of effort and enthusiasm an individual devotes to the learning process.”* (PARN, 2008, p3). A teacher’s contribution may be, without doubt, a significant factor in ensuring the successful outcome of a CPD programme but then so too is the influence that school leaders play in the CPD process amongst which, Day (1999b) indicates, is the influence they hold over the model of CPD adopted which, in turn, has implications as to how participants view the CPD that they have received and the level of commitment they dedicate to the process.

Both the way in which a teacher’s specialist body of knowledge is acquired and who influences it are issues at the heart of the various models of professional development.

Such issues are influenced by a school's infrastructure and the interest shown by senior management into the CPD of the teachers employed in their school (OfSTED, 2002a). When considering the different preferred learning styles of teachers and the requirement for them to develop a wide and varied knowledge and understanding base, it is reasonable to suggest that their professional development should be presented through a programme of CPD that utilizes a varied range of models. It is not surprising therefore, that one of the key strengths observed by OfSTED (2006) in their report on the provision of CPD in effective schools is that

“staff benefited where a wide range of different types of CPD was on offer. The very best schools selected the types of CPD most appropriate to the needs of the school and of individuals.”

(OfSTED, 2006, p4)

It is important, however, to realise that *“teachers and schools are not the same, and development is unlikely to follow a linear path.”* (Day, 1999a, p189). Day (1999a) explains that although both personal (individual teacher) change and systemic (school) change are essential companions they cannot always, realistically, be synchronized due to the variety of professional and personal agendas that teachers have. This notion suggests that systemic change for school improvement is just one element of a teacher's professional development and hence, teachers can expect to take part in different styles of CPD throughout their career. Therefore,

“it is important to recognise that the policies and programmes that are needed to support different elements of CPD will themselves differ.”

(Friedman and Philips, 2002, p371)

Irrespective of purpose or element of CPD undertaken, whether it is for example, to measure competence or for personal development, there are certain characteristics that Coolahan (2002) identifies as being desirable if CPD provision is to be deemed successful. Coolahan's (2002) suggestion is that CPD:

- *should incorporate both on and off-site dimensions;*

- *should allow teachers to have a greater role in setting the agenda and being actively engaged in an experiential process;*
- *should give teachers opportunities to work with their peers as facilitators and team leaders. This gives rise to a sense of empowerment and confidence building which cultivates a good esprit de corps; and*
- *should allow collaborative and interactional techniques that are very much in favour rather than lectures to large groups.*

(Coolahan, 2002, p27)

These desirable characteristics can be incorporated within the context of formal and informal programmes of CPD. Friedman and Philips (2002) indicate the notion of formal CPD as being perceived in terms of award bearing courses with Fraser et al. (2007) suggesting that the concept of informal CPD is training that

“moves professional development away from the practice of attending courses and training days to the concept of lifelong or continuing learning.”

(Fraser et al. 2007, p156)

Whether formal or informal, Middlewood et al. (2005) argue that professional development is an ongoing process that involves reflection and review that meets the needs of the school, the department and the individual. Daley (2001) suggests that professionals construct their learning by incorporating both formal and informal methods of CPD by moving back and forward between formal CPD events and their professional practice. Daley (2001) indicated that if such activities are not carried out, professional performance will deteriorate. Implicit in Daley's (2001) suggestion is the possibility that formal and informal CPD may exist side by side with one complementing the other. The suggestion that different models of CPD may interact and complement one another is explored by Kennedy (2005) who provides nine models of CPD and explores the circumstances through which they may be interacted in order that they may provide effective and sustainable CPD.

One of the nine models of CPD recommended by Kennedy (2005) is coaching/mentoring. Importance is placed on this model by The Training and

Development Agency for Schools (TDA) (2007) who provide suggestions for deciding the key features of effective CPD. As one of their recommendations, they indicate that effective CPD should be

“supported by coaching or mentoring from experienced colleagues, either from within the school or from outside.”

(TDA, 2007, p3)

The notion of mentoring being an important feature of CPD is supported by CUREE (2004) who state that

“mentoring and coaching seem to capture the broad spectrum of related [CPD] activities and have been identified by national policy-makers as being important forms of CPD in schools.”

(CUREE, 2004, p1)

In their report on CPD in effective schools, OfSTED (2006) found that schools made insufficient use of mentoring in CPD programmes, implying that mentoring should be included when planning a school's CPD. The inclusion of mentoring in CPD appeared as one of the areas of development in the report of OfSTED (2006). Furthermore, the report recommended that the TDA should work with schools to *“make more effective use of coaching and mentoring.”* (OfSTED, 2006, p5).

Clearly, mentoring plays an important part in the professional development of teachers and therefore requires further discussion; it is to this discussion that I now turn.

DAMAGED

TEXT

IN

ORIGINAL

What Model of Mentoring is Successful in Helping Schools in their Professional Development of Teachers?

Mentoring or Coaching?

Before embarking on a project that focuses on mentoring I feel it is necessary to distinguish between the terms 'mentoring' and 'coaching' as these terms may easily be confused and incorrectly used interchangeably. What I shall attempt to do here is briefly discuss 'mentoring' and 'coaching' in order to provide a comparison between the two concepts. This will provide a background for the following section where a fuller discussion of the meaning of mentoring will take place that will lead to a conclusion stating the concept of mentoring that relates to this research project.

The terms 'mentoring' and 'coaching' hold different meanings for different people but, as Hobson (2003) explains,

"to most commentators, however, mentoring is the broader of the two concepts."

(Hobson, 2003, p5)

Within coaching and mentoring there are areas that overlap particularly if both concepts are viewed as instruments through which analysis, reflection and action enable a teacher to achieve success in an area of their work. Clutterbuck et al. (1999) see mentoring as

"off-line help by one person to another in making significant transitions in knowledge, work or thinking."

(Clutterbuck et al., 1999, p3)

whereas coaching is considered by Parsloe (1999) as being

"a process that enables learning and development to occur and thus performance to improve. To be successful a coach requires a knowledge and understanding of process as well as the variety of

styles, skills and techniques that are appropriate to the context in which coaching takes place."

(Parsloe, 1999, p8)

Although both mentoring and coaching are processes that enable teachers to perform at their full potential, Clutterbuck (1992) advises that

"a mentor is a more experienced individual, willing to share his/her knowledge with someone less experienced in a relationship of mutual trust."

(Clutterbuck, 1992, p6)

Implicit in this advice, together with evidence from the CUREE (2005), is the notion that a mentor is a more experienced colleague who has the influence to facilitate professional and career development. On the other hand

"coaching does not depend on the coach having more experience than the coachee; it can take place between peers and staff at different levels of status and experience."

(Creasy and Paterson, 2005, p9)

This suggests that coaching may be seen as one aspect of mentoring or at least having a narrower focus than mentoring. That is, it focuses on a teacher's job-specific tasks, skills or capabilities (Hopkins-Thompson, 2000) while mentoring may be described as the activities conducted by a person (the mentor) for another person (the mentee) in order to help that other person to do a job more effectively (Mentoring, 2007). On the other hand, Starcevich (2004) is quite definite about the meanings of mentoring and coaching, a conviction supported by an on-line survey he conducted in 1998 where he asked respondents if there was a difference between coaching and mentoring. The results showed that

"mentoring is a power free, two-way mutually beneficial learning situation where the mentor provides advice, shares knowledge and experiences, and teaches using a low pressure, self-discovery approach." He continues to explain that mentors *"freely share their*

own experiences and skills with the protégé." With the mentor acting as "both a source of information/knowledge and a Socratic questioner."

(Starcevich, 2004, p3)

Whereas coaching he explains as a situation where

"a coach has a set agenda to reinforce or change skills and behaviors [sic]. The coach has objectives/goals for each discussion."

(Starcevich, 2004, p2)

If the line of reasoning promoted by Starcevich (2004) is accepted, then it can be argued that the focus of the current study is concerned with mentoring rather than coaching as

"it is a power free relationship based on mutual respect and value for both mentor and protégé" rather than a situation where "the coach has an implied or actual level of authority by nature of their position," who can "ultimately assist on appliance."

(Starcevich, 2004, p2)

The distinction between mentoring and coaching in a classroom context may be illustrated by considering the difference in support offered by both a mentor and a coach within a classroom setting. In terms of this research, the mentee would be guided by the experiences of the mentor with the aim of improving the use of ICT within the classroom. The agenda, although previously agreed by both mentor and mentee, would be guided by the needs of the mentee as would the support offered throughout the whole mentoring process. Ultimately, however, it would be the decision of the mentee whether or not to assimilate into current practice the knowledge and skills gained. However, within the coaching model, it would be more likely for the coach to arrive with a set agenda with the aim to change the practice of the coachee who would have had a minimum input into the whole process. Unlike the role of the mentor, as observed in this research, a coach would more than likely insist upon the coachee adapting the new found ICT skills into future teaching and learning.

The Meaning of Mentoring

Before attempting to formulate a model of mentoring that may be successful in helping schools in their professional development of teachers it is advisable to decide what is actually meant by the concept of mentoring in the context of a school setting.

The term 'mentoring' is part of the everyday vocabulary of schools but it may be the case that the term has a variety of meanings to different groups of people. This is not surprising when considering the attempts made to define the term by those considered to be authorities on the subject. For example, Roberts (2000) distinguishes between the 'essential' and 'contingent' attributes of mentoring arriving at his list of attributes by taking a phenomenological approach to examining a sample of 137 publications produced on mentoring from 1978 to 2000. He describes a phenomenological approach as one

"which strives to explore the essences of a phenomenon, a phenomenon perceived by many and with, possibly, many interpretations."

(Roberts, 2000, p147)

He admits that his own perceptions of the phenomenon of mentoring are not ignored in his exploration and examination of the literature where he pays particular attention to any consensual acceptance of the term. He also points out that, in line with the phenomenological approach, any interpretation of the literature pertains to a particular moment in time as a change of attitude and renewed meaning may lead to a re-interpretation of the term 'mentoring'. Hence, even though an interpretation of the term 'mentoring' may be arrived at, it is possible that the claims may be confirmed, disconfirmed, modified or corrected, if need be, by others.

It can be agreed then, that although an explanation of the term 'mentoring' may be given at any point in time the explanation is open to re-interpretation as new experiences are encountered or another individual takes a phenomenological approach to the reading of the literature or exploring the literature at another point in time.

Although Roberts (2000) arrives at what he calls ‘essential’ and ‘contingent’ attributes of mentoring from his literature review, he makes it clear to his readers that these have been arrived at by seeking a consensus view as it is unwise to suppose that there is a total agreement of the mentoring phenomenon. He realises that different schemas will lead to different descriptions and these may also change over time.

It may be worthwhile, at this point, to explain what is meant by the ‘essential’ and ‘contingent’ attributes of mentoring as described by Roberts (2000) himself. ‘Essential’ attributes are those that mentoring cannot do without if its essence, or nature, is to be retained. On the other hand, ‘contingent’ attributes are those that mentoring can do without while still retaining its essence. For example, ‘reflective practice’ is an essential attribute, or property, of mentoring if mentoring could not exist without it. While on the other hand, ‘assessing’ may be considered a contingent attribute to mentoring if it is not essential to the phenomenon of mentoring.

The ‘essential’ attributes, he says, are

“a process; a supportive relationship; a helping process; a teaching-learning process; a reflective process; a career development process; a formalised process; and a role constructed by or for a mentor.”

(Roberts, 2000, p145)

While the ‘contingent’ attributes he describes as

“coaching; sponsoring; role modelling; assessing; and an informal process.”

(Roberts, 2000, p145)

What follows is a discussion of some of the attributes of mentoring, some of which are included in those stated by Roberts (2000) above. From this discussion I will attempt to define the meaning of mentoring while formulating my own list of attributes that will be used when analysing the mentoring identified in my own research.

Process

It is important to distinguish between the terms 'process' and 'event'. The term 'process' suggests that a change takes place or evolves over time while an 'event' is a one-off occurrence such as a meeting between mentor and mentee. Caruso (1990), Stewart and Kruegar (1996) and Megginson and Clutterbuck (1995) all found mentoring to be a process that transmits knowledge and one that builds on a previous stage. The fact that mentoring is often referred to as a 'process' rather than an 'event' suggests that mentoring is a development activity where McAuley (2003) describes it as a process where *"roles and boundaries are negotiated and emergent."* (McAuley, 2003, p17).

From the literature, it may be confirmed that mentoring is a process with each stage developing as a result of a previous one rather than a series of isolated events.

Assessing

It may be possible that for some people, mentoring possesses all of the attributes as suggested by Roberts (2000) while for others it may only possess some of them depending on the purpose of the mentoring that takes place. For instance, some may argue that 'assessing' should not be an attribute of mentoring for reasons of confidentiality and having the potential for destroying the trusting relationship that should exist between mentor and mentee. Such a relationship can be so important to the success of the learning that takes place as a result of the mentoring process. Indeed, the opposing views of assessment as being an element of the mentoring process are borne out in the studies of Wynch (1986) and Morris (1988). Wynch (1986), on the one hand, concluded from his research that guidance and support should take precedence over assessment while Morris (1988) showed that assessment can play a major role in mentoring, a stance supported by Maynard and Furlong (1994) who suggested that once the mentee has achieved competence, following the support of their mentor, a critical element should be introduced into the mentoring process.

Within his sample of mentees, Wynch (1986) found that there were mixed feelings between those who welcomed the assessment function while there were those who felt that it would destroy the relationship between mentor and mentee and confuse their perception of the role of the mentor. He concluded that assessment should be a subordinate element of mentoring with guidance and support being the dominant function. Roberts (2000) supports this decision, he sees assessment as a contingent, or non essential, attribute that is to say that mentoring can exist without it.

A trust needs to exist between both parties in order that the mentee feels comfortable when making the initial steps towards mastering their new skills. If the expected outcomes are achieved then the relationship has been effective. The nature of the mentoring exercise, however, can bear on the nature of the relationship in that a voluntary mentoring exercise would work best with an informal, sincere relationship. By a voluntary mentoring exercise I am thinking of a situation where a competent teacher is seeking the help of a colleague in mastering a new piece of ICT equipment, for example. In this instance the mentee has entered into the exercise on a voluntary basis in order to acquire a new skill. On the other hand, a student teacher on a school placement will, once having mastered the necessary skills, need to be assessed. This can be a difficult step forward for the mentor having at one stage been a trusting friend and confidant and then becoming the person to assess or even possibly fail the mentee. Jacques (1992) warns that

“delivering criticism and assessing students can be more difficult than anticipated, especially when a relationship is close and mutually supportive.”

(Jacques, 1992, p118)

It is clear here that the role of the mentor needs to move forward in order to take account of the changing situation of the mentee. What is being argued here is that it is difficult to decide whether or not assessment should form part of the mentoring process; instead each mentoring situation should take into account its purpose before deciding whether or not assessment should be included. If the idea of the mentor being an assessor can be assumed to mean that the mentor acts as a critic then the term may be more acceptable in those circumstances when assessment may not be

appropriate. Kram (1980) takes up this notion and explains that if the mentor serves as a critic then the mentee has the opportunity to develop the ability to critically evaluate the development in learning that is taking place and also become more accepting of constructive criticism. Helping the mentee to critically evaluate is also described by Furlong and Maynard (1995) in the context of trainee students, they refer to this as 'doubly challenging'

"... they (student teachers) need to be encouraged to look critically at the teaching procedures they have established and evaluate their effectiveness. However, as they are often still extremely insecure about their teaching abilities, they also need considerable support if they are going to achieve this ... The mentor needs to be able to challenge the student to re-examine their teaching, while at the same time providing encouragement and support."

(Furlong and Maynard, 1995, p190)

A mentee who voluntarily enters into the mentoring situation does so with the hope of gaining new or improved skills and would therefore expect to be guided into and through this process by a mentor whose skills exceed those of the mentee in the chosen area. Garvey and Alred (2000) believe that

"there can be little doubt that, when handled well – from a foundation of knowledge – mentoring can provide excellent support, challenge and development opportunities for people."

(Garvey and Alred, 2000, p125)

It is in agreement with Garvey and Alred (2000) that I believe the expectation of the mentee from the mentor to be one of giving an awareness of the learning that has taken place and to offer guidance for further development. A case could evolve whereby the current situation is assessed and acted upon then reassessed and further action taken until the desired outcome has been achieved. The mentor would offer critical guidance as to how to take the development one stage further but this conversation would be a two way dialogue between mentor and mentee as the purpose of the mentoring situation, and hence its final outcome, in this context has been

instigated by the mentee. By introducing a formal assessment element into the mentoring process may lead to the mentee partly withdrawing from the mentoring exercise in an attempt to develop the desired skills alone so that they may be exhibited at the time of assessment. In this situation the relationship between the participants will break down resulting in a less effective process than was intended. In this scenario, it may be argued that assessment should not be an integral part of mentoring.

To summarise, although I can appreciate the tentative link between a mentor acting as an assessor/critic, I do believe that each of these roles should not be confused: an assessing role may imply a pass/fail result following an assessment, whereby acting in the role of a critic may imply developing within the mentee the ability to become critics of their own work. However, I think it is important that before any mentoring activity takes place, a clear definition of the terms 'assessor' and 'critic' should be agreed by both mentor and mentee.

Informal/Formal Mentoring

There is much disagreement and discussion between whether mentoring should be a formal or an informal process. Although Roberts (2000) concludes that mentoring is a formal process appears to be an essential attribute of mentoring, he does warn that

"formal mentoring has many inherent variables and thus potential pitfalls."

(Roberts, 2000, p156)

The argument of informal, as opposed to formal, mentoring is taken up by Little (1990) and Carruthers (1992). Little (1990) refers to the relationship between mentor and mentee and suggests that a formal style of mentoring does not promote a positive relationship. In his writing he suggests that there are potential hazards when the mentoring process is influenced by the formalities of policy intervention. Carruthers (1992), however, has developed his idea of formal mentoring programmes being more successful than informal ones. He informs the reader that formal mentoring situations do *"very much better than any other"* and is favoured possibly due to an

organization's desire to influence the outcome. In this instance, formal mentoring may take place when the mentoring process forms part of a structure imposed by an institution's procedures that may govern the introduction of a new method of planning for example or are an integral part of an associate teacher's assessment process.

Mentoring may be termed informal when it has been initiated by the mentee for the purposes of that person acquiring certain skills. Caruso (1990) refers to this as 'mentee driven' where the purpose of the mentoring is to fulfil the mentee's own perceived needs. He found, through his own research, that mentoring was usually mentee driven observing that the mentee selected the mentor in order to fulfil perceived needs. Zey (1984) also found that the most successful mentoring outcomes came about as a result of informal mentoring where the mentee and mentor chose one another.

Nurturing, Caring, Role Model

Research suggests that mentoring is

"a nurturing process in which a more experienced person, serving as a role model, teaches, sponsors, encourages, counsels, and befriends a less skilled or less experienced person for the purpose of promoting the latter's professional and/or personal development. Mentoring functions are carried out within the context of an ongoing, caring relationship between the mentor and mentee."

(Anderson and Shannon, 1988, p29)

Anderson and Shannon (1988) argue that there are those who do not place sufficient emphasis on the nurturing process in which the mentor creates a situation where a caring role is developed by the mentor while acting as a role model. They stipulate that mentoring should encompass an ongoing caring relationship and believe that the whole essence of mentoring is more to do with the relationship that exists between mentor and mentee rather than the various attributes that describe the roles and functions of the mentoring process.

Whatever the interpretation of the 'role model' in mentoring, it appears that there is, on the whole, agreement that it should be an aspect of any mentoring activity. Anderson and Shannon (1995), who agree that nurturing is an essential attribute, argue that both roles are closely related and as they agree that nurturing creates a caring role then 'nurturing', 'caring' and 'role model' must all exist together. Smith and Alfred (1993), it appears, dismiss the 'role model' as a mentoring function preferring to see it as the mentor showing 'how to get it right' as opposed to always getting it right themselves. Although they hold this view they do see the need for trainee teachers to model themselves upon somebody. This discussion illustrates that the attributes of mentoring can differ between different contexts of mentoring activities. Even so, they still avoid using the term 'role model' and prefer the role to be one of providing 'recipes' that will work, providing guidance through the skill acquisition process.

Sponsoring

Sponsoring is described by Roberts (2000) as a concept "*characterised by the action of older people in an organisation taking younger colleagues under their wing*" (Roberts, 2000) and he continues to explain that the term is more often referred to as mentoring. It has now become, he continues, a contingent attribute of the mentoring process. Anderson and Shannon (1988) believe sponsoring to be one of the five functions of mentoring and suggest that it involves being a guarantor involving the three essential behaviours of protecting, supporting and promoting.

Support and Challenge

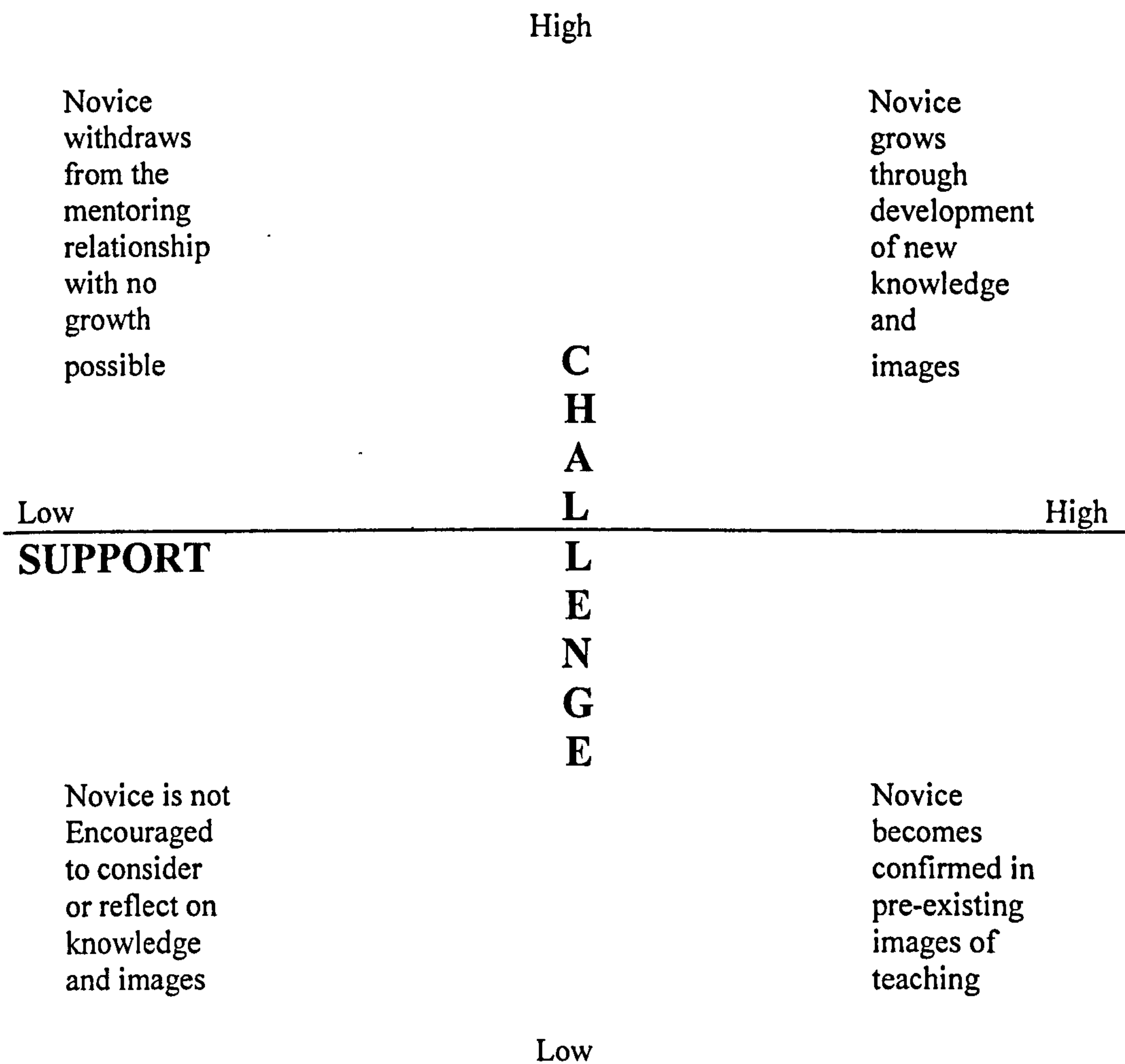


Figure 2.2 Two-dimensional Model of Mentoring Relationships (adapted from Daloz, 1986, p214)

Daloz (1986) argues that both challenge and support need to be present in order for a change in professional development to occur. In his two-dimensional model, illustrated in Figure 2.2 above, he shows that the mentoring relationship needs to offer both of these attributes at a high level in order for growth to be maximised. If either one of these attributes is at a lower level than the other, or if both are offered at a low level, then growth is limited. This view is supported by Day (1993) who argues that reflection of practice needs to be supported by “*planned and skilled challenge and support*” (Day, 1993), an argument strengthened by Holden (2002) who believes that

"teachers' professional learning does not take place in a vacuum, but depends on the 'challenge and support' of other members of the culture."

(Holden, 2002, p15)

Conclusion

To conclude this section on 'The Meaning of Mentoring' it is firstly important to recognise that it is not possible to provide a definitive meaning of the term 'mentoring'. Many writers recognize the complexity of the mentoring process and the difficulties encountered in their attempts to define the concept. On the one hand there are those who agree with Zey (1984) who perceives mentoring as a process that involves any or all of a number of functions such as teaching, counselling, providing support, promoting and sponsoring while on the other hand there is Levinson *et al.* (1978), and similarly Klopf and Harrison (1981), who view mentoring as a process that has to include all of the above functions and more in order that the term may be classed as mentoring. Secondly, in order to make an attempt to define 'mentoring' it is necessary to describe the context in which the mentoring activity will take place. For example, mentoring can be formal as in the mentoring of a student teacher and will therefore include an aspect of assessment or informal as in the mentoring of an experienced teacher who has sought the expertise of a colleague and will therefore include an aspect of the mentor acting as a friendly critic. Roberts (2000) undertook a phenomenological review of the literature on mentoring with the intention of providing a general definition of the term. He concluded that:

"it is accepted that mentoring may be many things to many people: however, if we are ever to address the question 'if we do not agree on what mentoring is, how do we know if we are talking about the same thing'? then attention to and exploration and discussion of our perceptions must surely be a suitable starting point."

(Roberts, 2000, p163)

Although Roberts (2000) explains that there is a *“lack of consensus as to what constitutes mentoring”* (Roberts, 2000, p162), he does offer the following definition of the term:

“A formalised process whereby a more knowledgeable and experienced person actuates a supportive role of overseeing and encouraging reflection and learning within a less experienced and knowledgeable person, so as to facilitate that persons’ career and personal development.”

(Roberts, 2000, p162)

Whatever definition of mentoring is arrived at, it is essential that it matches the model of mentoring that has been adapted to suit the mentoring situation. What appears to be common to all definitions of mentoring is the theory developed by Daloz (1986) who believes that the level of success of any mentoring situation depends on the combination of challenge and support where low support with low challenge is at the opposite end of the spectrum to high support and high challenge.

In conclusion, it is apparent that there is no clear, absolute definition of the concept of mentoring. It appears that the reason for this arises from the fact that mentoring is used to meet the needs of a range of purposes whether it be formal or informal. Anderson and Shannon (1995) stress that mentoring can have either a professional (formal) or personal development (informal) focus and they too realise that mentoring can vary in terms of its scope of influence as does Clawson (1980). However, what can be agreed upon is that mentoring, whether formal or informal, is like a journey where, as Daloz (1983) states, the mentor carries out three functions: (a) pointing the way, (b) offering support and (c) challenge.

Developing a Concept of Mentoring

It is clear, from the discussion so far, that a disparity exists when making attempts to define the concept of mentoring. However, it is vital that in order to carry out a piece of research where the focus is mentoring that there is some clarity of the term in order

that conclusions may be made from the exercise as to whether or not any change that takes place is a consequence of mentoring. Refining my terms, then, in relationship to other researchers, there are specific elements that I would perceive as being essential to the mentoring process as encountered in my own research. In order to develop a possible definition that may underpin the concept of mentoring in this context it is essential to have an understanding of the purpose of the mentoring exercise that will take place.

Before attempting to define the mentoring concept within the context of this research it is necessary to provide for the reader the function of the mentoring exercise. Wang (2002) sees mentoring as offering a method of support that often means something different depending on the purposes of the mentoring and the kinds of problems it is designed to resolve. Three perspectives of mentoring are described:

1. Mentor teachers acting as counsellors providing emotional and psychological support for novice teachers,
2. Mentor teachers acting as guides or technical experts, initiating novice teachers into the culture of teaching and
3. Mentor teachers acting as teacher educators working with colleagues improving the quality of education.

It is the third perspective that is the function of the mentoring exercise taking place in my own research. Within this perspective the mentor poses questions relating to existing knowledge and teaching practice (Cochran-Smith and Lytle, 1999) and explores new ideas and approaches to teaching (Groswami and Stillman, 1987) while continuing a collaborative inquiry into teaching practice (Feiman-Nemser and Remillard, 1996). In this type of mentor relationship, an improvement in the existing teaching practice is expected enabling the mentee to adapt to different teaching contexts and student populations (Kennedy, 1991). This perspective of mentoring is becoming more common place in schools whereby teachers depend on each other in adapting to new ideas and technologies as they are introduced into the education system. In this respect it is important to remember that

“the mentor’s role involves being an instructor, a teacher, a counsellor and an assessor rather than simply a craft expert to be copied by a novice.”

(Jacques, 1999, p112)

Research carried out by Wang (2002) highlighted the success of teachers mentoring teachers. His research explored what and how novice teachers learnt to teach within a mentoring situation. He found that the mentee:

- 1) became flexible in the use of different teaching methods and techniques,
- 2) learned from observing her mentor, becoming reflective on her own approaches to teaching and through this a development in her own teaching was observed,
- 3) began to challenge ideas and suggestions as a result of which she developed her own understanding and
- 4) developed her own techniques and skills of teaching.

In a teaching environment Wang’s (2002) findings are particularly interesting and it is this perspective of mentoring that underpinned the focus of my research.

My own research was developed around two case studies during which the skills and competences of teachers in using ICT in the classroom were developed and in so doing provided for them situations that were challenging but non-threatening and conducive to them learning from a colleague who was not necessarily more senior, but more experienced in this field.

During the initial stages of my own research project there existed reluctance on behalf of the mentees, whose knowledge and skills in ICT were often exceeded by those of their students, to make full use of the ICT equipment made available within the classroom. This equipment consisted of software and hardware and included, in the case of the second case study school, an interactive whiteboard that was introduced during the 2004-5 academic year. It was clear from this situation how the process of mentoring could be described as developmental as it was almost impossible to give a prescriptive definition of mentoring at this early stage. It was possible that the

definition would change from one case study to the other as each case may have produced a mentoring situation where the focus had shifted from an informal to a formal stance, for example. It was important, however, to attempt to formulate a definition that best fitted the situation of the mentoring that would take place in the first case study. Central to this definition, and in accordance with Garvey and Alred (2000), would be that the mentoring that would take place should do so with attention being paid *“to the needs of the learners and by offering both support and challenge”* within a relationship that fostered *“a greater potential for enhanced understanding and learning”* in an environment where guidance and collaboration existed and where, as believed by Jarvis (1992) *“reflection is a key element in the learning process.”*

It was my belief then, that within the context of my research the relationship between the mentor and mentee would underpin the whole process with the absence of a formalised assessment procedure. However, informal assessment would be present in the form of the mentor providing challenge and acting as a critic whereby the aspect of *“challenge needs to be perceived non-judgementally as a legitimate strategy.”* (Burgess and Butcher, 1999, p34). Such challenge, Burgess and Butcher (1999) explain

“is required from the start of a mentoring relationship in order that previously constructed images of teaching and gaps in knowledge can be recognised and remedied as appropriate.”

(Burgess and Butcher, 1999, p38)

Furthermore, Burgess and Butcher (1999) believe that mentoring requires challenge explaining that the quality of development is enhanced *“when that challenge is made at the appropriate time and in the right way.”* (Burgess and Butcher, 1999, p42). This form of assessment would be individualised due to the notion that different mentees will develop at different speeds (Burgess and Butcher, 1999). To complement the assessment process, judgements would be made of the teaching and learning taking place within the classroom through the dialogue that would take place during mentoring sessions away from the classroom. There would need to be a nurturing element set within a caring relationship where the mentor would be able to offer a model that demonstrated the skills and abilities requested by the mentee.

It was hoped that one of the outcomes of this research would be that the schools in which it took place would develop as mentoring institutions where they would

“strive to create collective learning opportunities, be continuously adaptive and proactive.”

(Fenwick, 1998, p142).

Underpinning this idea was that mentoring would become beneficial to both mentor and mentee and in so doing the mentoring process would have the effect of maximising the potential of its human resource. At the planning stage, however, it could only be assumed that the type of mentoring that would take place was the mentee learning from the mentor, this being described by Smith and Alred (1993) as a relationship between

“a more skilled or more experienced person and a less skilled or less experienced person.”

(Smith and Alred, 1993).

The mentoring situation was not hierarchical: in the first case study the mentor and mentee were teaching colleagues while in the second I, as researcher, acted as the mentor, I being a mathematician mentoring English teachers. It was the mentor's role in both case studies to create within the mentees a sense of confidence, promote self assessment and to identify the new learning that could transpire from making mistakes. The notion of mentor and mentee both learning from the mentoring situation is described by Lucas (2001) as a situation where both mentor and mentee

“help each other develop, critique, and clarify ideas. Even though they have varying degrees of experience in the academic field, the adults stimulate one another's growth to such a degree that the participants consider it to be mentoring.”

(Lucas, 2001, p26)

To summarise, the following attributes were used in my model of mentoring as adopted for my research topic. The mentoring process:

- offered one-to-one mentoring
- was an informal process
- offered a supportive, trusting relationship that was ongoing, nurturing and caring and one that encouraged, counselled and befriended
- was a helping process
- was a reflective process
- offered role modelling
- provided challenge and support
- provided awareness giving, observation and comparison
- provided informal assessment
- focussed on the individual's personal development

CHAPTER THREE

My previous research experience had been primarily conducted with use of qualitative methods of data collection. However, I believed that there was a place for both qualitative and quantitative methods to exist side by side with this combination of instruments complementing one other. It is to a discussion of this combination that I now turn but not before attempting to define the terms validity, reliability, causality and generalisability. The penultimate section of this chapter briefly explains why case study was chosen as the methodology for my research and continues with an explanation of what is meant by 'case study' putting it into its historical context making reference to such innovators as Glaser and Strauss and Laurence Stenhouse. The chapter concludes by providing the reader with a definition of 'case study' while putting my own research into the context of case study methodology.

Research Methodology

Reliability and Validity

Reliability can be seen to mean 'consistency'. When data collection methods are used to measure a variable, the judgements based on the outcome should be consistent if another collection process is used to collect data with regard to the same variable. Within an educational setting, if a data collection process is used to evaluate a person's performance then the outcome should be the same on different occasions. Within my own research, reliability was achieved by inviting several teachers to act as mentees with the outcomes of each mentoring exercise being analysed. Participant observation of lessons and teacher interviews were methods used to collect data with the analysed results showing a consistency of outcome.

Validity is an important characteristic of data collection methods as it deals with the question as to whether or not what is actually being measured is what is purported to be measured. This may be exemplified with case of Statutory Assessment Tests (SATs). SATs may be a valid method for collecting data relating to a student's ability

to remember facts but they may not be a reliable tool for assessing the student's understanding of those facts.

In qualitative research, where there is an emphasis towards rich descriptions of situations rather than the analysis of large amounts of numerical data and the use of standardised measuring instruments, it is understandable that there are those who may argue that there is limited reliability and validity on the grounds that only one instance has been studied. However, Walker (1978) explains that where descriptions are open to multiple interpretations then

"if it proves feasible to do this, to some extent we are by-passing the usual problems of reliability by passing responsibility for them to the audience."

(Walker, 1978, p202)

He qualifies this statement by explaining that our interpretations of events and the events themselves are not critical as we are not making any claim for our interpretations against those made by anybody else. The caution here is the possibility of different interpretations being made of the same situation. Replicability however, often associated with reliability, questions the ability for a piece of research to produce similar results if conducted by another researcher in the same situation. As *"educational situations are rarely replicable"* (Walker, 1978) then there would be reliance on

"procedures (to be) clear and explicit (in which case) reliability would be higher than it would given a free hand to the researcher in the design and conduct of the case study."

(Walker, 1978, p202)

There is some disagreement as to the definition of validity; Wainer and Braun (1988), for instance, refer to it as being a *"unitary concept"*, or one that is easily defined, much to the disagreement of Winter (2000) who sets out in his discussion *"to assert that validity is not in any simple sense a unitary concept."* He continues to explain that

“there is no single form, construct or concept that can universally be claimed to define or encompass the term.”

(Winter, 2000, p3)

Winter (2000) believes that validity is *“capable of being located at multiple and specific stages within the research”* and, particularly within qualitative research, *“is not a singular acid test that can be applied to the research process as a whole.”* He qualifies this statement by explaining that the researcher can apply a validity measure to different stages of the research process according to its need of validation. In other words the validity measure may only apply, for example, to measurement, observers, scores or instruments rather than to the whole research process. If this argument is realistic then it can be perceived that there are a number of typologies of validity as they relate to the various stages of the research. Maxwell (1992, p285) identifies five such typologies:

- descriptive validity - concerned with the initial stages of the research,
- interpretative validity - concerned with the researcher's description of a situation,
- theoretical validity - concerned with the constructions that researchers apply to, or develop, during the research,
- generalisability - concerned with the ability to generalise findings to wider groups and circumstances and
- evaluative validity – refers to the application of an evaluative framework.

The idea, as stated by Winter (2000), that validity is located at multiple sites throughout a research project, was evident in my own research project. In the initial stages I described and analysed the current position and the reasons behind the choice of topic (descriptive validity). My own interpretations of the situation were endorsed through those of the participants themselves, being collected through semi-structured interviews (interpretative validity). Through triangulating evidence, by the use of several data collecting devices collecting the same data from different sources, theoretical validity was achieved. Generalisability, to some extent, was achieved within the research project in that the success of the mentoring activity of the first

case study was followed by the success of a similar mentoring activity found within the second case study. However, the case of generalisability will be strengthened by those who take the findings of this research and apply them to their own circumstances. The nature of my research meant that the participants became intricately involved from its conception through to its conclusion and beyond. A consequence of this was that both they and I were involved in the evaluation process throughout the study (evaluative validity).

Are Qualitative and Quantitative Approaches to Educational Research Incompatible or Complementary?

The use of qualitative and quantitative approaches in a single research project is not a new idea, indeed it is supported by commentators such as Sieber (1973) who claims that methods should not merely exist side by side but should be amalgamated into the very heart of the research project.

Although there are several types of qualitative research, Atkinson *et al.* (1993) list seven approaches, each sharing general characteristics:

- they seek to describe and explain the unique circumstances of an instance in an attempt to explore "*the nature of particular educational phenomena*" (The Open University, 1996),
- observation data is collected by means of open-ended field-notes or the use of an audio- or video-recorder,
- it is usual for just a small number of instances to be investigated in some detail, and
- analysis is in the form of explanations and descriptions.

By taking each of the above four characteristics in turn and comparing them to quantitative research, it is possible to consider qualitative and quantitative research to be quite different:

- rather than exploring, as in qualitative research, quantitative research sets out to test an hypothesis,
- data is pre-coded and organised into categories while questioning requires an answer to be selected from a choice of answers,
- it is possible to work with large samples in quantitative research although some quantitative methods, for example experimental research, might work with a small sample of possibly 20 subjects,
- analysis is by quantifying the data collected and analysing by use of statistical methods.

Although the above may suggest that both approaches are quite distinct, it should be seen from what follows that this distinction is not as simple as it may at first seem.

The quantitative approach, also known as the *positivist* approach, is governed by laws that can be investigated by systematic observation and experiment. By using scientific methods, it is thought possible to establish certain objective facts from which generalisability may be arrived at. This procedure emphasises the testing of *a priori* hypothesis which in turn involves the quantification and generalisation of collected data. In contrast, anti-positivism, rather than pertaining to facts is concerned with accounts of what a person is or does. The similarity between both is that they rely on the need to interpret and understand findings. Indeed, this can be seen to be true in the work of Piaget who interpreted his findings relating an inability of a child to answer his questions to the notion that they had not reached the necessary stage of cognitive development. However, Mehan (1973) gives the example whereby a child chooses an elephant as an animal that can fly. The reasoning behind this answer is that Walt Disney's Dumbo the elephant flies. Hence, without understanding the interpretation is meaningless. In other words, quantitative research relies upon appropriate pre-conceptualisation of its focus and that the operationalisation of its conceptual field will affect the validity of its claims. Mehan (1973) believes that

"what is required is qualitative research into the interpretative and interactional processes involved in learning, not reliance on quantitative measurements."

(The Open University, 1996, p14)

What he is saying here is that tests, as used in quantitative research, are open to misinterpretation, resulting in conclusions (measurements) being made from collected data that are invalid due to these measurements not being the intention of the test constructor, as we see with the above example of Mehan's work. Donaldson (1978) obtained similar results to those reported by Piaget when replicating Piaget's experiments on inferences children make and from further experimenting suggested that "*a failure of communication*" (Donaldson, 1978) was a reason why

"the questions the children were answering were frequently not the questions the experimenter had asked. The children's interpretations did not correspond to the experimenter's intention."
(Donaldson, 1978, p170)

It seems that a possible way of avoiding such misinterpretations is to introduce into the research qualitative methods that 'seek to describe and explain the unique circumstances of an instance' (first general characteristic as stated above).

It has been said that while some educational researchers

"reject exclusive reliance on quantitative method, many qualitative researchers have retained a commitment to at least some of the features of what might be referred to as a 'scientific approach' to educational research, and have often combined the use of qualitative and quantitative techniques in their work."
(The Open University, 1996, p19).

One such use of a scientific method in educational research is that of systematic observation which involves recording classroom behaviour against a pre-constructed schedule of categories the results of which are represented in the form of a tally of frequencies. The data collected can then be used to accompany unstructured interview data (for example) in order to complement information, or hypotheses formulated from the systematic observation frequency charts.

Although qualitative and quantitative approaches are very different, they are similar in that they both make use of hypotheses. However, whereas the quantitative approach

begins with *a priori* hypothesis to be tested, the qualitative approach is concerned with the generation of hypotheses during the research process. McCormick and James (1988) suggest that

"all scientific research that is 'inductive' goes through this process at some point, but in interpretative approaches (qualitative) hypothesis generation and the 'discovery of grounded theory' (Glaser and Strauss, 1967) are relatively more important than the testing of hypotheses for predictive purposes."

(McCormick and James, 1988, p182)

However, research is able to use both *a priori* and qualitative hypothesis generation in the same piece of work. A good example of this is to be found in Measor (1983) where she refers the reader to other research which *"confirms the view that achievement in science is an aspect of sex role learning"* - an example of *a priori* hypothesis appearing in a predominantly qualitative research project. As her research progresses we become aware that Measor begins to generate hypotheses in relation to findings as they appear. For example, she states that

"the picture so far has suggested that all the girls disliked science. In fact, there were two important exceptions, cases which provide further insights."

(Measor, 1983, p23)

The cases referred to here are of girls who find themselves conformist and less attractive to boys and their appearance in the data collection means that another hypothesis has also appeared.

Educational research is concerned with people's behaviour, pupil achievement, perceptions of 'good' teaching, the availability of computers in schools and so on. It has been suggested that quantitative research *"fails to take account of the very nature of human social life"* and instead assumes *"it to consist of mechanical cause-and-effect relationships."* (The Open University, 1996). Likewise, it may be argued that the validity of qualitative research may be questioned on the grounds that the researcher has misunderstood data collected by anti-positivistic means. Although, then,

it seems that anti-positivism tends to favour qualitative methods and positivism, quantitative methods.

The nature of educational research means that it seeks to inform policy and practice and any method that may help in illuminating the issue can therefore be helpful. This belief is borne out by Parlett and Hamilton (1972) as they suggest that data should be collected by means of *"a variety of methods including those more usually associated with the experimental approach."* After considering the report of an evaluation survey following various initiatives on equal opportunities in schools by Bird and Varlaam (1985), the above may be seen to be true in that both qualitative and quantitative measures were employed. Questionnaires were administered in order to measure attitudes to different types of jobs. More informal methods were also employed, such as talking face to face with pupils and staff, which suggests that participants were given opportunities to make their own judgements and suggestions for certain outcomes. Evidence of the employment of informal methods is suggested in the report when it states that girls mentioned that they had to make a twenty minute walk to a silversmithing class which resulted in little lesson time and boys gave reasons why they disliked certain courses. Although other similar examples exist within this piece of research the two examples cited here are sufficient to suggest that differing methods of data collection are able to complement each other, with face to face interviews supporting evidence gathered through questionnaires, in order to illuminate issues which in turn may inform policy and practice.

Causality is another issue that can be raised in relation to both quantitative and qualitative approaches and refers to the connection of a cause with its effect. At times it may be difficult, or even impossible, to identify the cause of an observed effect. Wilson (1984) illustrates this by describing a situation whereby data revealed that a large proportion of high achieving pupils had parents who strongly supported their school work. In this example, it is not clear whether parental encouragement is the cause for high attainment or whether parental interest is stimulated by high attainment and therefore the parents give more encouragement to their children.

Qualitative methods may be criticised by the use of terms that suggest quantity, such as 'frequently' or 'usually' and yet no counting procedure has been employed upon

which these terms may be based. In this case, the use of statistical evidence, as in quantitative research, would complement that gained by observation through qualitative methods. Measor's research (1983) is qualitative by nature but gives instances where references are made to '*most* children' and '*some* of the girls' without giving any idea as to the values of '*most*' (51% could mean most) and '*some*' (2% could mean some). A clearer picture would be gained if values were assigned to these terms and a stronger case could be made if changes in policy or practice were to be considered on the strength of the research findings. As we look at such examples it seems that evidence is emerging to show that

"much educational enquiry uses both quantitative and qualitative methods, and there are good reasons for believing that these can complement one another."

(The Open University, 1996, p16)

When deciding whether a piece of research is to be quantitative or qualitative in nature it is important to first consider what kinds of findings are deemed to be important. A quantitative approach will be chosen if the need is to establish laws that can then be generalised whereas a qualitative approach will be employed if the purpose is to describe and explain certain occurrences. Within educational research, similarities appear in that both approaches employ a system of sampling from which an analysis of data collected follows. Both approaches will also select criteria in order to ensure methodological soundness. In quantitative research it is possible that generalisations have been based on targeting a whole population, made possible through using techniques such as the questionnaire, or by selecting a sample of the population ensuring that certain characteristics are present, for example, pupils between the ages of twelve and fourteen, before making a random selection. In qualitative research, however, sampling occurs in the process of analysis and the search for explanations and as hypotheses begin to emerge, data is sought from other situations in the hope of clarifying or refining perceptions.

In the analysis of data collected through quantitative and qualitative approaches, the development of clearly defined categories and dimensions that are able to take account of all data collected is necessary. With quantitative methods the categories are

determined prior to data collection whereas with qualitative methods categories appear as the data collection progresses. Bird and Varlaam (1985), in their quantitative based report, administered questionnaires and produced statistical tables from their results. In the same study they interviewed both pupils and staff, in a qualitative manner, from which clearly defined categories were developed, similar in design to those formed to record information collected via the questionnaires. Once tabulated, it appears that both sets of information were treated in the same way. The qualitative approach clearly complemented the quantitative approach and the gathering of data using both approaches certainly made the results more reliable.

Although some may make a case for not combining quantitative and qualitative methods of data collection due to the differing nature of the raw data, it could be argued that

“while this may create difficulties at the level of interpretation and explanation of findings, it creates no serious problems during the stage of data production.”

(McCormick and James, 1988, p184)

This would suggest, then, that at the data collection stage quantitative methods could be used to complement qualitative methods, and vice-versa, in an attempt to ensure the research findings are valid and reliable.

Validity and reliability have been briefly mentioned above and these are important factors that work together in an attempt to ensure the replication of research and furthermore the formulation of policy based on the findings of it. It is here that qualitative and quantitative approaches to educational research can be seen to be complementary. Eisner sums this up when he says that *“a novel as well as a statistical mean can enlarge human understanding.”* (Eisner, 1992). I take Eisner to mean that the ‘novel’ parallels the narrative collected from qualitative research while the ‘statistical mean’ reflects data collected by statistical methods as found in quantitative approaches. He backs up his statement with a quote from Toulmin (1982) who suggests that

"all of our scientific explanations and critical readings start from, embody, and imply some interpretative standpoint, conceptual framework, or theoretical perspective."

(Toulmin, 1982, 115)

Although Phillips (1989) adopts a contrary position to Eisner (1996), to my mind they do actually agree in that Phillips states that *"qualitative inquiry can only be objective insofar as it approximates to quantitative inquiry."* (Phillips, 1989). He further suggests that *"qualitative researchers are liable to misjudge the frequency rate of certain behaviours that are of interest"* (Phillips, 1989) and this further suggests that qualitative research should be complemented by quantitative methods in order to increase objectivity. Phillips quotes from Ratcliffe (1983), in further support of this view, as Ratcliffe (1983) agrees that *"most research methodologists are now aware that all data are theory-, method-, and measurement-dependent"* (Phillips, 1989).

Although many differences are evident between qualitative and quantitative research, on balance it appears that these approaches to educational research are complementary rather than incompatible. The evaluation survey carried out by Bird and Varlaam (1985), for example, supports this argument. Their survey on the curriculum in single sex schools was quantitative by nature, administering questionnaires, producing tables and percentages, and yet they state that

"the opportunity afforded by administering the questionnaires also enabled the researcher to talk to the staff and pupils concerned and to see the class in action."

(Bird and Varlaam, 1985, p2)

Adopting an anti-positivistic element could go some way to increasing the validity of the research and so ensuring that

"survey data do not simply represent facts about the world, but are the product of complex patterns of social interaction between interviewers and interviewees."

(The Open University, 1996, p14)

It has been shown above that there are similarities that exist within both qualitative and quantitative approaches to research and by considering these similarities it is implicit that both approaches are complementary and can be used together effectively in

“a deliberate attempt to reveal value positions in order to make judgements which, as far as possible, are free from coercion or bias.”

(McCormick and James, 1988, p194)

In this final summing up I would like to end with a quotation:

“qualitative researchers often use quantitative as well as qualitative data. And the converse is also true: quantitative researchers often draw on qualitative data, for example by including ‘free response’ items in questionnaires. Furthermore, in recent years there has been a growing trend among social researchers towards the combining of qualitative and quantitative methods, in an attempt to capitalise on the benefits of both.”

(The Open University, 1996, p23)

The above discussion shows that it is reasonable to accept that educational research can be carried out by the use of both qualitative and quantitative methods of data collection. It would be sensible to suggest that this notion of data collection could be employed within the paradigm of case study research and so what follows is some discussion as to the employment of this method.

Why Choose Case Study?

Case study was the preferred methodology for my research project, chosen for its potential to improve the practice of teachers following the identification of a problem. The perceived problem identified in the first case study concerned teachers' reluctance or inability to use ICT. The perceived problem in the second case study

concerned the reluctance to use of a set of interactive white boards (IWBs) recently installed in the English department of the participating school. Staff expressed a concern that the financial investment in this area of information technology did not match the return as a result of their lack of confidence in its use.

By employing case study as a means for improving current practice I utilised

“inquiry-based research conducted by teachers that follows a process of examining existing practices, implementing new practices, and evaluating the results, leading to an improvement that benefits both students and teachers.”

(Western New Mexico University, 2005, p2)

I wished to explore how mentoring could break down this reluctance to use ICT and could improve teachers' ICT skills. I believed that mentoring would encourage participants to:

- trust one other, observe practice, decide and agree on changes in practice, reflect and interpret results,
- collaborate with one another through a cyclical process where each would share, give, take and encourage with suggestions offered, listened to and reflected upon,
- be involved in a reflective practice that would sometimes prove to be challenging particularly when the reflection would become critical of current practice,
- develop and therefore expect change made possible by nurturing and support.

I also believed that both case study research and mentoring may be considered to be powerful vehicles to provide support and influence change in practice within a school organisation and if this change is manifested in classroom practice then the experiences offered pupils may bring about an improvement in their learning.

Stenhouse refers to case study research as

“an interpretive presentation and discussion of the case, resting upon, quoting and citing the case record for its justification.”

(Stenhouse, 1978, p37)

He refers to the evidence collected as a ‘case record’, a record that is compiled through interview, observational fieldnotes and participant observation and the interpretation of which is telling a descriptive story as it feels to be in it rather than telling it like it is.

Case study analysis is used by researchers in their attempts to respond to research questions. The typical procedure is for a researcher either to visit a site many times or alternatively two or more sites may be visited, collecting data through numerous methods.

Yin (1984a) describes the case study approach as organised in three distinct stages:

- Design
- Single-case data collection and analysis and
- Cross-case analysis

Within the first stage the theory is developed, the cases selected and the data collection techniques decided. The second stage involves the conducting of the individual case studies, the analysis of data collected from each case and their write up, drawing attention to similarity of findings and policy implications. The final stage requires drawing cross-case conclusions from which policy implications are developed. Yin (1984b) further defines the case study research method as

“an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used.”

Yin (1984b, p23)

The description provided by Yin (1984a, 1984b) of a case study approach to educational research perfectly fitted my research as I was investigating two individual case studies, both considering the utilisation of mentoring as a tool for encouraging the use of ICT in teaching. Furthermore, I considered my research to be empirical in that qualitative research methods were used to collect data drawn from observations, interviews and documentary evidence, and analysed through the utilisation of qualitative data analysis methods. Furthermore, as Nisbet and Watt (1984) suggest

"a case study approach is particularly appropriate for an individual researcher, because it gives an opportunity for one aspect of a problem to be studied in depth within a limited timescale."

Nisbet and Watt (1978, p2)

Nisbet and Watt (1978) continue to explain that for a piece of research to be deemed a case study the analysis of data identifies *"determining factors in a problem area"* with the relationship of these factors being investigated in some detail through specific cases.

In case study, as in my own research, evidence is gathered through a variety of techniques, namely: interview, observation, examining documentation and pupils' work. By employing several sources of data collection the reader is given the opportunity to see how conclusions are reached and furthermore opportunities are given for the reader to develop alternative interpretations. Although data collection techniques may be influenced by subjective judgement or personal bias, this influence may be limited by acknowledging possible bias and providing within the study instances for cross-checking. This is made possible, for example, by cross-checking findings from one interview with those of another or checking interview outcomes against documentation or observation.

As is true of this piece of research, it is possible that a case study arises out of an interest expressed by the researcher. Prior to the inception of the first case in my research study I had not developed a hypothesis; reassuringly Nisbet and Watt (1978) confirm that

“in case study, it is possible to preserve a more open approach until the researcher has really begun to ‘get the feel’ of the situation.”

Nisbet and Watt (1978, p4)

Following the analysis of data in the first case study it was possible to formulate a hypothesis as it was perceived that the NOF did not provide the teachers in the first case study with all of the necessary knowledge and skills to successfully incorporate the use of ICT in their teaching. It was possible, therefore, to formulate a hypothesis for the second case based on the theory that emerged from the first case study for, the theory being that the NOF was perceived to be unsuccessful in providing teachers with the necessary skills and knowledge to be able to use ICT in their teaching. Implicit in the first case study was that mentoring enhanced the training received by teachers through the NOF. As with the research carried out by Rudduck (1984), the two cases that I was involved with in my research could each be described as an event that

“does not exist outside the period in which it was being studied, and the participants’ acquaintanceship with it is no more extensive than the fieldworker’s. Participants and fieldworker encounter the event together and the fieldworker is no more an outsider to the event under study than the participants.”

Rudduck (1984, p201)

Rudduck (1984) continues to explain that once the event is over there is no going back to the event for additional data and, furthermore, the fieldworker’s view of the case cannot change or mature over time.

Critics of the case study method argue that the study of and dependence on a small number of cases jeopardises the reliability and generalisability of the findings. Furthermore the intense exposure to a case similarly biases the findings. In response to such negativity, Hamel et al. (1993) and Yin (1984a, 1984b) reject such criticism as poorly founded and forcefully argue that the number of cases is irrelevant due to the fact that the goal of the study is to establish the parameters to be applied to further research. Hence, even a single case could be considered acceptable.

Background to Case Study Research

The earliest use of case study research can be traced back to Europe, predominantly to France. However, in the early 1930s the methodology was closely associated with the Department of Sociology at the University of Chicago from which a great source of literature was produced. Its use arose as a result of studies being carried out on the numerous national groups of immigrants arriving in Chicago and it was deemed that the case study methodology was suited to producing reports on issues such as poverty and unemployment (Hamel et al., 1993). Stenhouse's interest in the case study as a research method goes back to the 1950s but it was during the 1970s that he became directly involved in fieldwork for case studies and promoted the use of case study as a method for use in qualitative research. He argued that

"the study of cases is the recognition that a case is an instance, though not, like a sample, a representative, of a class and that a case study is a basis for generalisation and hence cumulation of data embedded in time."

(Stenhouse, 1978, p21)

In his multi-site case study, Stenhouse (1984) provides examples of his work and of his thinking on case study methods, case records and data archives. He explained that by conducting his research on library use he felt, to some extent, challenged to show that case study methods were appropriate for this area of research. Similarities between the case study research of Stenhouse (1984) and my own research exist in that case records were collected on each case. These records, as Stenhouse (1984) describes them, are collections of data from each case, the data being collected through numerous methods such as interview, documents and observation.

A Grounded Theory Approach

The notion that theory should not precede the design of educational enquiry is supported by Glaser and Strauss (1967) who believe that theory should be a product of research study, being grounded on observation. This idea became known as

‘grounded theory’, a systematic qualitative research methodology in the social sciences emphasizing generation, or the discovery of theory from data in the process of conducting research.

Glaser and Strauss (1967) take the position that *“the adequacy of a theory can't be divorced from the process of creating it.”* (Glaser and Strauss, 1967, p5). They explain that much research is designed to verify existing theories, not generate new ones where researchers use knowledge from existing theories rather than exploring new areas not covered by these theories. In this way most theory is generated through past studies and knowledge and not from the data itself.

In my own research I employed the comparative analysis of different participants from which I built a theory that was then tested and refined by considering it with another comparison group. Looking at the data from the first case study I began to draw out patterns in the data which lead to general concepts about the case. These concepts were then evaluated and tested with a second case that acted as a comparison for the first case. My own discovery of theory and comparative analysis is in line with that described by Glaser and Strauss (1967) as they explain that

"In discovering theory, one generates conceptual categories or their properties from evidence, then the evidence from which the category emerged is used to illustrate the concept. These conceptual categories can then be explored in other comparison groups, which may support the categorical concept or suggest modifications to make it more generalisable."

(Glaser and Strauss, 1967, p23)

It is encouraging to note that, as Glaser and Strauss (1967) argue, theory generation does not require lots of cases, one case could be used to generate conceptual categories and a few more cases used to confirm the indication (Glaser and Strauss, 1967, p30). The researcher's

"job is not to provide a perfect description of an area, but to develop a theory that accounts for much of the relevant behavior"

(Glaser and Strauss, 1967, p30)

My first case study took place in the school where I was headteacher and following the execution of the first case I found it necessary, for two reasons, to carry out the second case on a different site. The two reasons were:

1. I had resigned from my post as headteacher therefore the research became a multi-site research project and as such could no longer be deemed action research – the research more fitted the paradigm of case study research and
2. due to the small number of teachers on the staff of the first case study school I decided that it would make the findings more reliable by seeking a second site in which to carry out the second case.

The comparison group of participants was selected based on the theoretical relevance to further the development of the emerging categories of the first case. In this way, and following the suggestion of Glaser and Strauss (1967), the second group of participants was selected on the basis of the analysis of the first case rather than being selected beforehand, in this way it was the data that acted as the guide. By selecting a second site in which to continue my research I believe that the second group of participants magnified the similarities between the groups and therefore broadened the scope of the emergent theory.

Methods

The basic idea of the grounded theory approach is to discover and label categories and their interrelationships. The data do not have to be literally textual; they could be observations of behaviour, such as interactions and events in a classroom that are often recorded in the form of field notes. There are three distinct yet overlapping processes of analysis involved in grounded theory. These are:

- open coding,
- axial coding and
- selective coding.

Open Coding

In my own research 'open coding' is referred to as 'a horizontal trawl' where emerging themes were highlighted in a search to answer the question "what is this about?" The purpose of this analytical process is to identify the more general categories that these themes are instances of, which in the case of my own research related to the outcomes of a mentoring activity.

It is important, at this stage, to have fairly abstract categories, or 'themes' as I preferred to call them, in addition to very concrete ones, as the abstract ones help to generate general theory.

The process of naming themes is known as coding. Coding can be done very formally and systematically or quite informally. In grounded theory, it is normally done quite informally. For example, if after coding much text, some new themes are invented, grounded theorists do not normally go back to the earlier text to code for that theme.

Axial Coding

Axial coding is the process of relating themes to each other through a combination of inductive and deductive thinking. In my own research I refer to this type of coding as 'a vertical trawl' where, in the style of grounded theorists, rather than look for any and all kind of relations emphasis was placed on causal relationships and instances that were common to a basic frame of generic relationships. For example, in a vertical trawl I identified the relationship of 'trust and confidence' and 'sharing' as I considered one to have a causal relationship to the other. Similarly, instances of commonality to a basic frame of generic relationships were identified in the following emerging themes: sharing, share expertise, learn from one another, paring important, encouraged communicating together.

Selective Coding

The process of selective coding requires the organization of the emerging themes into categories. Following a vertical trawl (axial coding), thirty six themes emerged in the

analysis of data in the first case study from which I identified six groupings (selective coding).

Ethnography and the Current Research

It has been said that

“ethnography is a social science method developed for studying communities in natural settings that seeks to capture ethnographic information across study sites in order to support comparisons and reliably identify recurring themes.”

GAO (2003, p4)

As with my own research, a project that collected information over two sites that was then analysed and organised into recurring themes, a distinguishing feature of ethnographic research is the collection of data that is carried out by means of human observation and interaction in a local setting with the researcher acting as the primary data collection tool. Wilson (1977) believes that ethnographic research is valuable when research findings are to be generalised to the everyday world, in which case it is advisable that the research is conducted in similar settings to that world. Within educational settings, he warns

“that if one wants ultimately to generalize research findings to schools, then the research is best conducted within school settings.”

Wilson (1977, p248)

By collecting data through participant observation, the ethnographic researcher is able to collect information relating to the perspectives of the participants, having the opportunity to discuss with the participants their perspectives of a particular event. The reporting of such events is synonymous with telling a story or journalistic writing with events and settings richly described. The ethnographic researcher, in compiling an analysis of data, is able to produce an empathetic understanding of the participants. This is due to the employment of numerous data collection methods, the sharing of the daily life and experiences of each of the participants and the flexibility made possible

by the acceptance within the community of which the researcher, as participant observer, is accepted. This situation contributes to the reliability of the project.

For a project to be ethnographic, as opposed to just qualitative, Massey (1998) believes that there are seven minimum requirements:

An ethnographic study

1. is a study of a culture,
2. employs multiple methods of data collection,
3. is where the researcher becomes engaged in the culture,
4. is where the researcher acts as the primary source of data,
5. is where the researcher considers multiple perspectives of the same situation,
6. is underpinned by a cycle of events and theory building and
7. tells a story of the participants and the culture within which they live.

The case study approach, defined as *“the systematic investigation of a specific instance”* (Nisbett and Watt, 1984, p74) allows the use of a number of techniques to examine a problem from a variety of perspectives. It focuses on real situations and its

“embeddedness in social truth allows attention to the subtleties and complexities of a case.”

Adelman et al (1980, p23)

The above definition of the case study identifies its compatibility with the ethnographic approach and therefore my own research may be described as a case study incorporating the essence of ethnographic research, building on the traditions of grounded theory.

Data collection

In order to explore a perceived problem, appropriate data needs to be employed. Some possible data collection tools are:

- pupil assessment
- closed questionnaires
- open ended questionnaires
- diary /journal
- supporting documents
- interviews
- tape recording

The intention in my own research was to carry out a multi-site case study employing both qualitative and quantitative data collection tools.

My own research topic was a multi-site study utilising two case studies with mentoring to improve ICT skills as the chosen focus. I believed that mentoring would encourage participants to:

- trust one other, observe practice, decide and agree on changes in practice, reflect and interpret results,
- collaborate with one another through a cyclical process where each would share, give, take and encourage with suggestions offered, listened to and reflected upon,
- be involved in a reflective practice that would sometimes prove to be challenging particularly when the reflection would become critical of current practice,
- develop and therefore accept that change can be possible through nurturing and support.

Both case study research and mentoring may be considered to be powerful vehicles to provide support and influence change in practice within a school organisation and if

this change is manifested in classroom practice then the experiences offered to pupils may bring about an improvement in their learning.

CHAPTER FOUR

What follows is the first part of my data collecting process, the first case study. This was carried out in the primary school where I was employed as headteacher. I began by analysing the situation that existed in my school in order to arrive at the aim of the first case study and that was to encourage staff to use the computer in their classroom. A one-to-one mentoring activity was set up that allowed teachers to work together and learn from one another when analysing and using a computer programme. An outcome of the activity suggested that programmes of professional development can be enhanced by the inclusion of mentoring.

First Case Study

Situational Analysis

Strengths

- Experience in Mentoring

During the first nine years of headship my school had developed its experience in mentoring. This grew out of an interest of mine in the training of teachers and in particular the teaching experience component of a teacher-training course. Initially, teachers gained experience in mentoring from receiving students into their classrooms and working closely with the university mentor(s). When the university introduced a system of mentoring whereby the school was requested to sign an agreement showing the level of mentoring that it wanted to become involved in, we agreed to sign for the highest level of mentoring which increased our responsibility for the mentoring of students on teaching experience. It also meant a closer working relationship between teacher and university mentor and the school receiving payment for its mentoring activities.

- Developing Mentoring Experience

Although teachers did not receive any formal mentor training, they had access to the experience of the visiting mentors from the local university while visiting their students in school and the detailed notes that arrived in school prior to the arrival of a student. This was the case until 1996 when I followed a one year course from an Open University M.A. programme in mentoring, which coincided with the school's acceptance of two Open University P.G.C.E. students. I acted as school co-ordinator while two teachers acted as the students' mentors. We were provided with three days of training and the mentors were furnished with detailed training materials in order to assist them in their work as mentors. Through conversation with the teachers involved in the mentoring of the Open University P.G.C.E. students I do believe that they found the experience hard work, very rewarding but beneficial in our efforts to become a mentoring institution.

- Optimising Limited Budgets

The introduction of LMS also played its part in the development of our mentoring experience. Tight budgets encouraged us to appoint newly qualified teachers (NQTs) and accept one of our welfare assistants onto the registered teacher programme. Both situations presented staff with mentoring opportunities with guidance provided by the LEA, the TTA and the mentoring university with whom we worked in close partnership during the training of the registered teacher. Without the experience, enthusiasm, dedication and growing expertise of staff we could not have considered undertaking the important task of providing the mentoring and training of teachers on the registered teacher programme.

- Atmosphere

The atmosphere created in the school was one of tolerance, patience and acceptance of people's shortcomings without being judgemental. The aim was to create, as Fenwick (1998) describes, a school where the learning principles would

“strive to create collective learning opportunities, be continuously adaptive and proactive.”

(Fenwick, 1998, p 142).

Although there were those within the school who held positions of seniority, the development of all staff was conducted within a framework of collaborative learning and a team approach.

- Pupil Achievement

Documents were evidence of the fact that pupil achievement at the school was higher than average:

- League tables and SATs results showed that pupils achieved higher than those attending similar schools,
- an inclusion in a national newspaper rated the school amongst the top 100 schools in the country and
- the school's OfSTED report reported that pupils in both Key Stages were making *“good progress and attainment when compared to national expectations.”*

Weaknesses

- Lack of Structure Around Mentoring

Although it could be seen that staff had considerable experience, and some training in mentoring, the system within the school lacked structure. Mentoring was left to the school and university mentors while I took a very small role in the actual mentoring process. I tended to become involved if there was a problem or a second opinion was required. I rarely observed a student's lesson and only informally chatted with staff and students during breaks or after school - no time was set aside by me to carry out the role of school co-ordinator. School mentors, however, did carry out their roles of

supporting, advising and acting as a critical friend professionally and gave a lot of time to the whole process.

- Not a Mentoring Institution

Mentoring was regarded as a process that only applied to visiting students and NQTs. The mentoring process began prior to the arrival of students where staff were informed at a staff meeting. On arrival the students were given a tour of the school and introduced to staff. That was the only formal contact that staff, apart from mentors, had with the students. If the student looked for advice or requested to observe examples of good practice in other teachers in their classrooms, which was rare, then the student initiated the communication. A programme was not in place that allowed students to see good practice in other year groups.

Training in mentoring was not provided for staff and did not appear on the yearly INSET timetable. The process was not used for school improvement in that staff were not given time to share good practice in what ever form that may have taken. If a teacher felt in need of professional development they would be enrolled on an LEA organised course. An alternative would have been to release teachers from their teaching commitments in order that they observed good practice or even allowed them to be observed by a mentor.

- Split Site

The school was operated on a split site with each Key Stage being separated by a distance of one mile. This situation caused administrative problems and implications for staff interaction. Subject co-ordinators were split between the two sites and apart from staff meetings, little time was found during a busy week for staff to come together. The passing of incidental information between staff at break times was impossible and although efforts were made to keep the staff as one unit, the physical distance between the two sites made this difficult at times.

- Gaps in Expertise

Experience and expertise was lost as staff were promoted to posts at other schools. Although the selection process for appointing new staff was successful in recruiting the correct calibre of staff there was a period of settling in and this period of adaptation proved to be a long process. Often a supply teacher would need to be appointed to fill the vacancy until the arrival of the newly appointed teacher. Within this situation there were lost opportunities for mentoring.

Registered and Graduate Teacher programmes opened up great opportunities for mentoring and introduced me to further work with the local university. Our first Registered Teacher began his two year course while completing his degree at the local university who also acted as his mentoring institution for the Registered Teacher Programme. The setting up of the BA and Registered Teacher programme involved meetings with the relevant lecturers at the university and again this was an opportunity to further our already strong relationship with the institution.

The appointment of an ICT co-ordinator was the result of the previous co-ordinator's promotion to deputy headship. This appointment, together with the fact that ICT appeared as a key issue in the school's latest OfSTED inspection, suggested that ICT would benefit from a process of mentoring.

Future Developments

In response to the appointment of a number of staff it was realised that their mentoring needed to be placed quite high on the agenda in order that the school's practices and policies were made aware to all staff. With the school's investment in ICT and realising the large sums of money that this involved it was essential that staff acquired a thorough knowledge of ICT and its application across the curriculum. It was for these reasons that it was decided that it would be beneficial if our mentoring practice began with ICT.

Reflective Analysis

The Need for a System of Mentoring

An aim in our school's development was to develop as a mentoring institution. As a staff, we agreed that by improving our skills in mentoring we would be more effective in our induction of new staff. The system that we introduced needed to build upon the strengths and interests of staff while at the same time giving them professional development and improving the standards of attainment of our pupils. Developing a system of mentoring within the school would, hopefully, create an environment where mentoring would be seen as a means of overcoming not only the problems identified above but those that may appear in the future.

By initially using the mentoring process to address an OfSTED key issue, namely the use of ICT across the curriculum, we would also be developing our newly appointed ICT co-ordinator, encouraging staff to develop their skills by working together and learning from one another with the expected result of improved knowledge and teaching of ICT across the curriculum. Staff would be encouraged to assess the current hardware and software available for their year group and actually be required to use it in the hope that they would in turn use it within their classrooms.

Building Upon the Situational Analysis

The situational analysis above identified certain strengths and weaknesses. It also discussed the development of ICT within the school and the need for further development. By developing the school as a mentoring institution the hope was that strengths would be built upon, weaknesses developed into strengths, challenges overcome, opportunities grasped and ICT developed further with the result of developing staff professionally, through including mentoring in programmes of CPD, and improving the standards of teaching and learning within ICT.

- Strengths

The situational analysis highlighted our strengths in mentoring and expertise in teaching with newspaper reports confirming our successes in pupil achievement. By using mentoring as an area of development these strengths would be built upon. The experience and knowledge gained in mentoring Manchester Metropolitan University and Open University students would be adapted and used in the process of mentoring. It was also intended that teachers sharing their different levels of expertise in this area would improve the differing levels of expertise in teaching and using ICT. The atmosphere/ethos of our school, as identified in the situational analysis, was one of trust and our understanding of one another's shortcomings without being judgmental. This atmosphere was important to the success of our attempts at mentoring where staff may need to accept help and suggestions from a colleague.

- Weaknesses

Although our school had been involved in mentoring for a number of years, weaknesses in this process were apparent in that the mentoring process within the school had no organised structure and so the school could not, therefore, be considered as a mentoring institution. The split site situation that existed, and the gaps in teacher expertise in the area of ICT, were two important considerations that needed to be made in order to bring teachers together to share their expertise, fears and weaknesses in their own knowledge and teaching of ICT. By initially adopting a system of mentoring in ICT, staff would be brought together from both sites and by arranging for pairs of teachers to work together from different sites and with different levels of ICT experience and knowledge the problems associated with a split site would be lessened and the gaps in expertise narrowed. Secondly, the hope was that as we began to develop our use of mentoring strategies a structure of mentoring would also begin to develop which in turn would develop the school as a mentoring institution.

- **Challenges**

A major challenge that faced staff was coping with the many changes and innovations that found their way into school through one route or another. These innovations were frequent and their introduction into an already busy school life was not always welcomed. By developing staff experience and expertise in mentoring, beginning with mentoring within ICT, the hope was that these skills would be transferred to other activities and as staff confidence in mentoring increased, the introduction of new innovations would be met with less anxiety.

- **Opportunities**

Our close relationship with Manchester Metropolitan University offered many opportunities. This enabled us to put into practice our mentoring skills as well as gain from the experience and skills of the visiting university mentors. We were also able to take the opportunity to become involved in mentoring training that the university occasionally offered, and for me to become part of a mentoring working party that had been set up by the university.

- **Developments in ICT**

The school was placing heavy emphasis on ICT with the intention of developing staff professionally which would, hopefully, lead to an improvement in pupil attainment. Through developing our school as a mentoring institution, primarily focussing on ICT, we were afforded the opportunity to prepare for this innovation while at the same time improve standards of teaching and attainment of pupils in the area of ICT.

Reasons for Choosing ICT as a Focus for the Development of Mentoring

By considering the analyses above certain themes were drawn out that could be addressed by choosing ICT as a focus for the development of mentoring:

- ICT was identified as a weakness in the school's OFSTED report. It stated that *"there is a need to develop skills in ICT and to encourage its use across the curriculum."* This identified weakness presented an appropriate challenge for development.
- Throughout the school it could be noted that staff confidence in the use of ICT was variable and in some cases the pupils themselves were more expert than the teachers. By encouraging collaborative working, teachers would not only be offered the opportunity to share their skills but also develop them in areas of low confidence.
- By the appointment of an enthusiastic ICT co-ordinator, the school had available relevant expertise that could be usefully employed to raise the standards of teaching and learning in ICT by appropriate guidance and support with the planned outcome of the professional development of all teaching staff.

Subject of the First Case Study

The subject of the first case study was mentoring with each member of staff choosing a particular program to be used with a group of pupils from their own class. Staff were encouraged to work more closely together in pairs with joint planning and joint feedback to the whole staff.

In accordance with the model of mentoring adopted for this research project, the mentoring that took place between the pairs was an informal process with both members of the pair sharing their expertise and knowledge with one another. For example, Mark shared his knowledge and expertise in ICT with Julie while she provided an awareness for Mark of the potential for ICT in the Key Stage 1 curriculum. There was no formal training for mentors; essentially, the process provided a situation whereby two teachers, with differing experiences and strengths were given the opportunity and time to share these with a colleague. In this respect,

each member of the pair acted as both mentor and mentee and provided for one another appropriate challenge and support.

Aim of the First Case Study

The aim of the first case study was primarily to encourage staff to use the computers in their classrooms.

Organisation of the First Case Study

Staff worked together with the intention of learning from one another and sharing their knowledge while analysing a piece of software that they would be using with a group of pupils. Pairs were chosen according to the Key Stage in which the member of staff was working and their confidence and expertise in ICT. Each member of the pair was selected from a different Key Stage and possessed varying levels of confidence and expertise.

Staff decided their own criteria for selecting the group of pupils and selected a piece of software for them to use. It was necessary for each pair to make a statement as to the intended learning outcomes of the software and to decide how effective it was in helping the pupils learn. The strengths and weaknesses of the software were also to be reported on.

The grouping of staff was as follows:

Key Stage 1	Key Stage 2
Doris	Angela
Julie	Mark
Geraldine	Mary
Wendy	Roberta

Methodology Used for First Case Study

Four methods were used in order to collect data for the first case study:

- Field notes
- Teachers' observations of the tasks
- Semi-structured interviews
- Documents – school's ICT monitoring notes

The methods chosen provided a triangulation that compared views of the same theme so that data from the different sources could be used to corroborate the findings and by doing so increase the validity of the topic. In addition to using a triangulation of data collection methods in case study 1, the fact that the research was carried out on two sites, or environments, acted as a validation of the complete research project. As Guion (2002) explained, by changing the location, or environment, the researcher establishes whether or not the findings from both locations are the same. She confirmed that if the findings remain the same under both/several environments then validity has been established.

Field Notes

Field notes were kept under three headings:

- Staff meetings
- Paired work (staff working together)
- Work with pupils

The information gathered through the field notes offered evidence of the enthusiasm of the staff to carry out this project. Mark and Julie, for example, were in the staff room discussing their mentoring experiences in relation to this research project. From the discussion it was clear that they had both clearly enjoyed the experience with Mark commenting that he had learnt a lot from Julie in such a short space of time and

that the experience should be continued on a more formal basis beyond the conclusion of the project.

Semi-structured Interviews

In order to obtain relevant information from the semi-structured interviews field notes were made that would form the basis of the interview questions. Information needed to be gathered on:

- whether or not the exercise worked as a mentoring strategy,
- an evaluation of the increased use, or otherwise, of ICT,
- the effects of working together,
- the possibility of transferring the skills of mentoring from this exercise to other situations and
- how the culture of the school may have changed.

From the field notes an interview schedule was produced (see Appendix 2) which was then used to interview each member of staff who took part in the first case study. After firstly seeking permission from the staff, a Dictaphone recorded the responses made and these were transcribed on the completion of each individual interview.

I began to highlight themes on the interview transcript but this proved to be difficult while attempting to compare the same question for each participant – the process was clumsy and time consuming. I soon realised that I needed to see all eight responses for each question side by side and therefore began to produce a single grid with all the responses for each individual question appearing on one grid. Again this idea failed, as some responses were too long to appear in a single cell on the grid. The solution was to allocate one page per response, which meant that each question had eight responses on eight separate pages. The task of drawing out themes suddenly became much simpler, being able to see the participants' responses side by side.

A Horizontal Trawl

Emerging themes were highlighted on the interview transcripts and transferred to a grid, one grid for each question. In order to allocate a response (theme) to a participant, crosses were placed in the cells which also produced a method for showing frequency of responses. For example, in figure 4.1 Doris uses ‘positive words to describe’ mentoring on five occasions in her response to question 2.

The following is an illustration of a horizontal trawl:

Question 2: Could you be quite honest with one another with regard to your abilities (or lack of them) or did you find that you had to hide them through being embarrassed?

Highlighted themes: Positive words to describe

 Appreciating one another’s abilities

 Feelings why mentoring may not work

2. <i>Could you be quite honest with one another with regard to your abilities (or lack of them) or did you find that you had to hide them through being embarrassed?</i>								
Theme	Doris	Angela	Julie	Mark	Gerry	Mary	Wendy	Roberta
Positive words to describe	XX XXX		X	X	X		X	XX
Appreciating one another’s abilities	X	X	X	X	X		X	X
Feelings why it did not work		X	X			X		X

Figure 4.1 A Horizontal Trawl

The results of this process produced, as I called it, a horizontal trawl. The next task was to carry out a vertical trawl using the highlighted themes. I called this process a ‘vertical trawl’ simply because the themes were listed vertically.

A Vertical Trawl

The vertical trawl began by listing the themes that emerged from each question. The results are shown below:

Question Number	Emerging theme
1	<ul style="list-style-type: none">• Trust and confidence• Sharing• Subject knowledge• Cross Key Stage knowledge• Social
2	<ul style="list-style-type: none">• Positive words to describe• Appreciating one another’s abilities• Feelings why it may not work• Negative response
3	<ul style="list-style-type: none">• Share expertise• Strengthening own practise• Confirmation that what you are doing is ok• Disadvantage – time• Feeling insecure
4	<ul style="list-style-type: none">• Encouraged• Awareness• Starting point
5	<ul style="list-style-type: none">• Yes• Learn from one another• Informal
6	<ul style="list-style-type: none">• Yes• Pairing important• Breaks down barriers• Commitment
7	<ul style="list-style-type: none">• Yes• Sharing• School culture• Provides support
8	<ul style="list-style-type: none">• Yes• No• Possibly• Encouraged communicating together• Encouraged a feeling of trust• Togetherness• Less frightening• Easier to approach colleagues

Figure 4.2 Themes that Emerged from a Vertical Trawl

After analysing the thirty six themes shown in figure 4.2 above, it became apparent that there was a commonality between them and that they could be grouped further from which six groupings appeared. The collective title for each group being as follows:

- A. Sharing
- B. Social
- C. Knowledge
- D. Miscellaneous
- E. Single Positive Words
- F. Negative Aspects

These groups were shown in a vertical list with the theme, together with its originating question number, shown against each group heading. The result is shown in figure 4.3 below:

Group Title	Question Number	Theme
Sharing	1.	Sharing
	3.	Share expertise
	5.	Learn from one another
	6.	Pairing important
	7.	Sharing
	8.	Encouraged communicating together
Social	1.	Social
	1.	Trust and confidence
	2.	Appreciating one another's abilities
	3.	Feeling secure
	5.	Informal
	6.	Breaks down barriers
	7.	Provides support
	8.	Encouraged a feeling of trust
	8.	Togetherness
	8.	Less frightening
	8.	Easier to approach colleagues
Knowledge	1.	Subject knowledge
	1.	Cross Key Stage knowledge
	3.	Strengthening own practice
	3.	Confirmation that what you are doing is ok
	4.	Awareness
Miscellaneous	4.	Encouraged
	4.	Starting point
	6.	Commitment
	7.	School culture
Single Positive Words	2.	Positive words to describe
	5.	Yes
	6.	Yes
	7.	Yes
	8.	Yes
	8.	Possibly
Negative Aspects	2.	Feelings why it may not work
	3.	Negative response
	3.	Disadvantage – time
	8.	No

Figure 4.3 A Vertical Trawl

The vertical trawl had narrowed the themes even further with a positive picture emerging from the interview data. Five of the six groups highlighted positive aspects, these being: Sharing, Social, Knowledge, Miscellaneous and Single Positive Words with only one group highlighting negative aspects amounting to only four out of a possible thirty six themes.

Findings of First Case Study

The Evidence

From the data analysis groupings developed from the interview material, it is significant to note that the exercise proved to be positive as the vertical trawl clearly highlighted that from the six themes developed, only one referred to negative aspects. For example, there was a commonality between many of the responses made by staff with agreement that mentoring encouraged communication between one another and that it promoted the strengthening of their own practice. On considering the evidence even further, the negative comments made were not serious but appeared to be concerns that may not materialise or would disappear once a working mentoring culture was established within the school. Angela, for instance, commented

"I have no problem working with a colleague but I can see that some people may."

Similarly, Julie's negative comment refers to a concern that may not even become a concern. She admitted that

"I wasn't embarrassed at all although I would imagine that some would be."

Clearly, any concerns that Roberta had soon disappeared after she had been working within a mentoring situation as she stated

"We felt threatened at first but after a while that turned into a more professional outlook and trust because we saw that we both needed each other and we both had something to contribute."

Pairing appeared to be an issue with Doris who would feel insecure if paired with a member of staff of lesser experience. Having taught at the school for twenty-five years she confessed

"I've experienced some NQTs in the past who think they know it all and if you let them know your weaknesses then they can lose respect, confidence ... er ...and make you feel lacking in knowledge."

Doris' belief was that NQTs should learn from the more experienced staff of the school and felt that by admitting she had learnt something from an NQT would create a situation whereby an NQT would have less respect for her as Doris' expectation was that she should be in the role of mentor.

The final concern expressed by two members of staff was that of time. The staff concerned, Julie and Mark, were paired and although they thought mentoring was a positive way of sharing expertise they felt that the only disadvantage was the time factor. Mark explained that it really wasn't a disadvantage other than he *"found trying to get together [with Julie] very difficult"* but this he attributed to the fact that they both worked on different sites each site being one mile apart. He further explained that *"if we worked on the same site it wouldn't have been such a problem."*

Social

In order to establish an environment in which mentoring is able to take place, Halai (1998) suggests that such an environment should be *"open and built on trust."* (Halai, 1998, p311). McCann and Radford (1993) would also agree with this as they state that *"collaboration evolves once trust develops through sharing."* From my own research a significant idea emerging from the positive themes was that of trust and it was this that the teachers explicitly identified as an important feature of their learning. Even those members of staff who felt that by revealing weaknesses to other teachers through pairing would mean a loss of respect, implied that trust was a characteristic of the learning process. The idea of trust as being an important component of the mentoring process is implicit in the CPD scheme developed by the Institution of Electrical Engineers (IEE) (2002), the implication being that within a mentoring relationship, the personal aspect of trust needs to be built into the relationship in order to avoid potential problems.

Although Doris, as shown above, exhibited reservations when being paired with an NQT, she was not against the idea of being paired with a more experienced colleague. When asked if she objected to working with a colleague in a mentoring situation she answered

"No not really, I get on very well with Angela and I learnt a lot from her."

Her response suggested that she trusted Angela and it is through this level of trust that she was able to learn from her. When asked the same question, whether he objected to working with Angela, Mark gave a similar response:

"I enjoyed working with Julie – I always do. We get on well together and trust each other."

Mark made a direct reference to the importance of trust which, when read in the context of his answer, implied that it is an ingredient for a successful mentoring exercise.

On the one hand there is Doris who shows definite reservations towards the mentoring exercise unless she is in a safe, secure setting. On the other hand Mark displayed quite a positive picture but it should be noted that he was working with a colleague who he always enjoyed working with and one that he trusted. Mary however, presented a different angle; she explained that

"At first I was very worried of talking about a subject that I knew little about especially to a colleague who I thought would expect me to be computer literate. Also I'm quite new to this school and work on a different site and really not had the opportunity to become familiar with Geraldine."

Again there is the implicit suggestion that trust has to be present if mentoring is to be successful but as in Mary's case, it does not necessarily have to be present initially – trust and confidence can be built up as barriers are broken down. Mary uses words such as *"thought"* and *"expect"* and explains that she is new to the school and works

on a different site to that of Geraldine, in other words there are a number of uncertainties and despite these she overcomes her reservations. This is evident in her opening words where she said *"at first"*, which suggests that following the initial introduction to the exercise there followed a trust and confidence building between the pair that led to a learning situation. The field notes support this suggestion as they emphasise the progression, in Geraldine's case, from a state of seeing the computer as second to the traditional methods used to encourage pupils' learning to one where she realised the opportunities afforded through the use of appropriate software. It was realised that Mary *"was the catalyst for Geraldine's new found enthusiasm."* The monitoring exercise gave Geraldine the opportunity to talk to Mary about her work in pre-reception, the field notes state that she is *"passionate about her work and enjoys talking about it"*, and this evolved into a discussion relating to the organisation and integration of the computer into this work. A useful social interaction between the two members of staff developed with the result of *"a new found enthusiasm"* for Geraldine. Mary described this sharing of expertise as an opportunity that *"broke the ice a bit (and) being able to chat informally to only one person instead of a group in a large meeting."* This was valuable for her considering the fact that she was a newly qualified teacher with little contact with early years staff due to the geography of the buildings. The informal, social aspect of teachers being given the opportunity to talk about their work was clearly of great benefit for Geraldine and Mary, both learning from one another's abilities and expertise. It is encouraging to note that other staff also agreed that through a sharing of successes and inabilities in an informal setting barriers between staff were broken down and a learning situation was enabled and, as Wendy implied, the pairing of staff is a mechanism for providing support not only for established staff within the school but more importantly for new members and newly qualified teachers.

Implicit in Geraldine's responses is the fact that she learns better in a less formal situation rather than sitting for a day listening to a presenter running a course. This is in line with Hale and Whitlam (1995) who state that one of the key findings in their research was that

"mentoring supported the development of skills and behaviours which are actually difficult to develop through traditional off-job training."

(Hale and Whitlam, 1995, p 78)

Geraldine and Mary found that they had learnt through mentoring that took place within their work place. They found that they had expanded their expertise through actually analysing a piece of software and considering its use in the classroom. Following 'analysing' and 'trying', the opportunity was given to 'reflect' with the mentee.

As a result of the pairing of teachers, relationships were being developed between mentor and mentee through which a system of communication and the provision of a support system evolved. Fischer (1994, p 2) considers mentoring to be a facilitator of the learning process when there is a certain relationship existing between individuals and a system of communication in place. If Fischer's (1994) definition of mentoring can be accepted, then Geraldine and Mary were experiencing mentoring.

Strategies are continually being developed at the school that encouraged staff to mix and therefore communicate with one another and this is deemed to be important due to the fact that the school operates on a split site and over the recent past key members of staff have moved for promotion with their replacements being made with newly qualified teachers (NQTs). By replacing experienced staff with NQTs, the lower salaries meant that there existed the opportunity to increase the staffing at the school. Angela, a senior member of staff, noted that by introducing mentoring, staff had been encouraged to think together and as a result of the criteria used to pair staff they were also encouraged to discuss cross Key Stage issues in relation to the use of ICT in the classroom. Holistically, as Mark explained, the exercise created a

"feeling of trust or even that we are all in this job together and that we need help and support."

He further suggested that

“in time, and if enough of this is done, then I’m sure it does have the potential for changing the culture.”

More evidence of this possible culture change and the potential for bringing staff together from both Key Stages is given by Mary who, when asked if the exercise had changed the culture of the school, replied by saying that

“I think it would have made people more open and brought people together especially being on two sites.”

Geraldine, who had previously been more convinced about encouraging pupils to grasp basic skills without necessarily making use of the computer, showed a change in attitude towards the use of ICT and suggested that there had been a development of trust between staff. She explained that the approach to ICT was now *“less frightening”* and that she felt *“more at ease to approach other members of staff.”*

Knowledge

An important feature of this first case study was to enable staff to improve and develop their own confidence and knowledge in the use of ICT. In addition, due to the philosophy of the school being that all teachers should gain experience and knowledge across the Key Stages, teachers were paired with a colleague from the other Key Stage. It was hoped, therefore, that arising from the opportunities given whereby staff could share their own knowledge and experiences through a mentoring exercise, knowledge would be gained in two dimensions. The first dimension was staff developing their own personal knowledge in relation to the content and use of software with a group of pupils and developing their ability to analyse the suitability of that software. The second dimension was staff developing their knowledge and understanding of ICT in the opposite Key Stage. The emphasis of mentoring as providing a support for learning is discussed by Megginson and Clutterbuck (1995)

who also consider the sharing of knowledge as being an important part of the mentoring relationship.

From the evidence that follows it could be argued that knowledge had been shared and gained in both dimensions as mentioned above; even those who initially showed a certain degree of apathy towards mentoring, spoke positively of the increase in knowledge gained. Doris provided a clear example of this if her initial reaction to mentoring is to be compared with her later comments. For example, she exhibited a degree of concern towards the pairing of staff and the possible reactions of younger, newer members of staff towards more experienced longer serving ones particularly in instances where the knowledge and experience of longer serving staff were less than that of less experienced members. The pairing in Doris' case was acceptable to her because she was paired with Angela with whom she worked well and for whom she held a certain amount of respect, a respect that had developed over a period of eight years of working together. Field notes reflecting on a long conversation held between the two members of staff suggest that Doris had gained some knowledge with respect to organisation of computer work within the classroom, the effectiveness of the piece of software chosen and its strengths and weaknesses (it should be noted that Angela was familiar with Doris' chosen piece of software). Doris herself admitted that through working with Angela she did *"learn something about working with computers"* (the first dimension) and that it afforded her the opportunity *"to keep in touch with what is happening with the older ones."* This emerging positive attitude towards mentoring was clearly stated when Doris explained that

"if we hadn't carried out this exercise then I wouldn't have looked at this program and tried it with the children and if Angela hadn't been familiar with the program then I'm sure she would have learnt something from me."

She also admitted that

"it's certainly made me focus in on one program and I wouldn't have done that unless I'd been made to and now I know more about it I don't mind having a go with the rest of the class."

Doris' learning, it may be argued, was the result of the relationship that existed between her and Angela and the individual support she received. This type of one-to-one relationship that provides individual attention and support for the mentee is described by Corral (1993) as being at the centre of a definition of mentoring.

Positive attitudes were expressed about the benefits of developing mentoring as an exercise by which staff are given opportunities to gain cross Key Stage knowledge. All staff were aware of the possibility that following a staff reorganisation they may have been faced with the possibility of teaching in a different Key Stage and Roberta welcomed the opportunity to be mentored by Wendy, the Year 1 teacher. She explained that

"given that I might be teaching in Key Stage 1, I found the experience beneficial to work with somebody already there, an already accomplished teacher."

Similar comments were made by Julie, who was mentored by Mark, a Key Stage 2 teacher and ICT co-ordinator. She was looking for *"confirmation that what (I am) doing is okay"* and realised that

"we can learn so much from one another ... we were encouraged to work together and share experience and knowledge and I know that I learnt a lot from Mark."

The interaction between Mark and Julie proved an opportunity where both the mentor and mentee were able to share with one another their experiences and knowledge within a comfortable relationship. Such a relationship is referred to as a *"two-way, power-free relationship"* by Starcevich and Friend (2000, p5) who emphasize the importance of this type of interaction taking place within the mentoring process.

Developing and increasing knowledge featured quite strongly in the participants' comments. What also emerged was their understanding that, as Angela quite aptly stated

“we have to understand that sometimes our way is not always the best way and we have to be prepared to change and have a go at a method that has been tried and tested by colleagues.”

She continued to say that

“it made us analyse the programs and we wouldn't normally do that, well, not in that much detail.”

Angela was not alone in these beliefs. She was supported by Doris who realised that she now *“knows more about it”* (the program she worked with) and Geraldine who reported that she *“believe(s) an awareness has been developed, and an interest.”*

Clearly, what has taken place is what is described by (Friedman and Phillips, 2002, p274) as an *“expansion of expertise”*, an ingredient for CPD whereby the participants to some extent, have determined their own learning needs even though there may have existed external influences by way of school and government agendas. Friedman and Phillips (2002) explain that within CPD it is the outcome of the learning experience that makes professional development effective as there is no guarantee that relevant learning takes place as a result of attending a course. The participants in the current research have expanded their expertise through a process of mentoring during which they have been given opportunities to learn through a guided and supported development.

Benefits of the Mentoring Exercise

It can be argued that from the data collected, evidence can be produced, as shown above, that gives a clear indication of all staff having benefited from the mentoring exercise by developing an awareness of both cross Key Stage and curriculum knowledge. Not only did staff look upon the exercise as an opportunity to strengthen their own practice and confirm their already established practices but also to develop an awareness of those employed by other teachers working in a different Key Stage.

Using Mentoring to Improve Professional Knowledge

There was a very positive response from participants when asked if the exercise had made any difference to the use of computers in the school. Through analysing the programs, Julie believed that the teachers were encouraged to use them with the pupils and this she saw as a starting point that could lead to further similar work, a hope that was echoed by Mark. He, as ICT co-ordinator, was confident that staff had been *“made to look at the usefulness of certain programs”* and continued to say that *“hopefully they will run through the same exercise again with other programs.”* Implicit in their replies is the understanding that staff, previous to the mentoring exercise, did not carry out any analysis of the software that they used with their pupils or how they may be used in the class. Angela, for instance, admitted that *“it has made us think about how we use the computer programs”* but was cautious to comment on the possibility of an increased use of the computer within the classroom after just one opportunity for working within a mentoring situation. However, she was quite explicit in her belief that mentoring was an important aspect of learning and implied that the exercise, even if it hadn't increased the use of computers, had served the purpose of nurturing a mentoring culture within the school. She said

“Of course, it is too early to say just how much computer use may have changed but more importantly I feel that it has opened roads in for colleagues to realise just how important it is for us to get together to learn from one another.”

Edwards (1998) refers to organisations as being “reflexive” and “learning” and explained that employees have to have

“networks of communication within which to channel information and views; the opportunities to learn associated with facilitating flexibility and change; and ways of participating in decisions about these processes.”

(Edwards, 1998, pp 382 – 383)

It could be argued that the mentoring taking place as part of this research project

“provides one route to fulfilling these requirements and, moreover, is a means of encouraging individuals to continually improve themselves at minimal cost to the organization.”

(Friedman and Phillips, 2002, p 273)

In order for the school to develop a mentoring culture there must be commitment, as realised by Roberta who, when asked if the strategies used for sharing expertise were robust enough to use for other subjects, agreed that they were but the success depended on the commitment of the participants. It was noted earlier that Doris showed reservations towards the mentoring exercise and felt it would only work in a secure and safe setting but in agreement with Roberta, she also realised that

“whether it's computers or maths or literacy teachers can get together and help each other whether its about the subject itself or how it's taught across the Key Stages.”

This comment highlighted the move forward that is evident in the development of one member of staff who could have been described as showing initial hostility to the concept of mentoring as a tool to aid professional development and to further subject knowledge of staff. Not only did Doris see the potential of mentoring as a tool to improve subject knowledge but also as one to be used to improve cross Key Stage knowledge, these being the two dimensions described earlier. Other staff believed that the strategies used in this exercise could be used in the induction programme for newly qualified teachers if *“built into the induction programme properly”* but added that time would need to be *“built into the programme to deliver it.”* (Roberta). Mark's comments showed agreement with Roberta and added that

“new staff have to learn our ways and procedures and the best way of doing this is from existing staff. I think it's a good idea if strategies can be built into school procedures so that it happens quite naturally.”

It is the sentiment expressed here, particularly the last sentence, which could be described as the seed out of which a mentoring culture could grow within the school.

Conclusions

The focus of this first case study was the use of mentoring as a form of staff professional development. The actual case about which data was collected was the use of ICT in the classroom with a small group of pupils. Staff were given the opportunity to experience mentoring and following an analysis of their reactions and comments it has been shown that mentoring has had some effect on the development of staff. In addition it has, to some degree, although limited due to the short time scale, improved confidence in the use of ICT in the classroom. There is evidence of many positive comments and, as can be expected, some reservations. These reservations may be the result of a teacher's low level of competency in the area of ICT, a resistance to change or mere insecurity. On balance the staff involved in this first case study did show a positive attitude towards mentoring and one that could be fostered to build a mentoring culture within the school.

Six months after the first case study took place, documentation in the form of the ICT co-ordinator's monitoring reports, evidenced that teachers' skills in the use of ICT in the classroom had improved. The 'Record of Monitoring' documents gave evidence that all teachers planned for ICT and that these plans were being followed in the classroom. Appropriate assessment strategies showing generic skills in pupils had been developed and so too were opportunities given for pupils to experience the use of different software packages. Informal conversations with pupils revealed that they were able to produce their own personal disks, load their work onto the computer and speak about it with confidence.

Methodology Used for First Case Study – Strengths and Weaknesses

The four methods used in order to collect data for the first case study were:

- Field notes
- Teachers' observations of the tasks
- Semi-structured interviews
- Documents – school's ICT monitoring notes

Field Notes

These provided opportunities to collect data during staff meetings, while staff worked together in pairs and while they were working with pupils. By using this method I was able to provide evidence for the reliability of data gathered using other methods. I found the use of field notes to be particularly useful in capturing those moments that would otherwise be lost during interview or teachers' observations and as such gave a general impression of the overall situation. The disadvantage of using field notes is that they may become subjective and therefore subject to bias. The Open University (1994) warn that

“keeping field-notes can be highly selective and people sometimes fall into the trap of recording facts and incidents which confirm their own ideas and interpretations rather than others.”

(The Open University, 1994, p15)

The Open University (1994) suggest that to guard against bias in field notes, the researcher needs to be aware of bias and therefore it is necessary to be self-critical. On reflection, I believed that I was not as self critical as I could have been while recording entries in the diary. This situation was remedied in the field notes of the second case study in that I consciously became self-critical. MacCoun (1998) advises that the researcher should rely on institutional safeguards such as peer reviewing in the event that self scrutiny should fail. Taking the above advice, field notes taken

during the second case study were scrutinised by me before offering them to the participants for their comments as to the reliability of the contents.

Teachers' Observations of the Tasks

This data collection method was unsuccessful in that teachers tended not to record their observations due to lack of time. However, I intended using this method for the second case study as the possibility now existed to provide teachers with time to complete their written observations. Although

"this method relies very heavily on the co-operation of the informants, its attraction as a method of data collection is that it can provide quite detailed information about situations which you cannot have easy access to, such as someone else's classroom."

(The Open University, 1994, p41)

What I have learnt from the first case study, and what is suggested by The Open University (1994), is that I need to provide a series of instructions that would aid teachers in keeping their diaries. The Open University (1994) further suggest that questions such as When? Where? What? Who? will help teachers to focus on the observations that need to be recorded.

Semi-structured Interviews

The use of semi-structured interviews was found to be useful in that they presented an opportunity to discuss issues face to face with the participants. The use of semi-structured interviews was selected rather than questionnaires because of the small number of participants used in the research. Questionnaires would have been less time consuming if there had been a large number of participants. However, the use of questionnaires would have been a less powerful tool than that of interviews in that responses gathered through questionnaires would not have revealed all of the

information that was revealed by interviews. Although the semi-structured interviews were time consuming, and so too was the transcription process that followed, I found them to be a useful tool that allowed the discussion between the participant and myself to take minor diversions from the questions as well as allowing further, meaningful discussion where necessary.

Semi-structured interviews were used to obtain spoken responses from the participant teachers to complement their observations of the tasks. Cantrell (1993) refers to the importance of interviews for data production in qualitative studies and especially mentions the importance of describing participants' own words. The use of semi-structured interviews continued to be used in the second case study as I felt that it was not only important to gather the ideas, views and feelings of those who were being mentored but also to report their own words in the analysis of data.

Documents – School's ICT Monitoring Notes

It was illuminating to refer to the school's documents on the observations made on teachers' lessons as these provided evidence of the extent that teachers were using what they had learnt, in the classroom. The lesson observations were carried out by either the subject co-ordinator or a member of the senior management team as part of their school evaluation process and were therefore useful as a comparison when considered in conjunction with my own observations of teachers in the classroom following the mentoring exercise. The advantage of using documented evidence in this way is that it was illuminative and given from another observer's perception while providing, as Hopkins (1985) suggests, context and information. In addition, the use of documents in this way provided triangulation and strengthened the reliability of the findings.

Pupil Interviews

One weakness of the first case study was that the perceptions of pupils were not fully explored. There are those who believed that

“it is very important to investigate children’s world of experiences.”

(Kortesluoma et al., 2003, p434)

The world of experiences

“is an internal matter and, when talking about it, a child in a way transforms perceptions, feelings and moods into external activities.”

(Kortesluoma et al., 2003, p435)

This view point is supported by Hughes (1989) who also believes that children’s behaviours are influenced by how they interpret their experiences. In the context of this study the reference to pupils’ ‘external activities’ and ‘behaviours’ I would suggest refers to their learning outcomes, outcomes that are influenced by the ‘experiences’ that are provided by their teachers. The use of pupil interviews as a form of data collection, and hence

“as a method of accessing children’s perspectives, has much to offer” and “make it possible to pay attention to differences between adults’ and children’s points of view.”

(Kortesluoma et al., 2003, p435)

By including pupil interviews as a method of data collection in the second case study it was possible to compare the perceptions of teachers and pupils post mentoring. This provided the added advantage of increasing the reliability of the study and the opportunity to match the perceptions of both teachers and pupils. Assessing pupils’ work was an integral part of teaching and learning and in recent years assessment has become a vital element in improving standards in education. However, although assessment of pupils’ work by teacher participants and researcher post second case study was valuable, listening to what the pupils themselves had to say about their experiences and subsequent outcomes confirmed what teachers and researcher

perceived as being what the pupils had experienced. In addition, the interviews formalised the informal conversations I had with pupils in the second case study.

CHAPTER FIVE

A link between the first and second case studies was the effect that NOF had on the development of teachers' ICT skills, the suggestion being that it had failed most teachers (the notion that the NOF training failed most teachers is taken up again and discussed in both chapters 7 and 8). However, the first case study revealed that mentoring had a definite effect on CPD and although the focus of the research remained on mentoring in this, the second case study, the issue of CPD was explored. This chapter maps the progress of the English department of an inner city comprehensive school as they are mentored through producing an IWB resource that they later used with their pupils. The evidence supported the findings of the first case study which is that mentoring has the ability to enhance programmes of CPD in ICT.

Second Case Study

The aim of the first case study, as stated earlier, was to encourage staff to make use of the computer in their classrooms. Data has shown that this aim was achieved, evidenced by the increased use of the computer within each classroom combined with an increase in knowledge and confidence by the members of staff taking part in the research. The credit of this achievement may be given to the mentoring activity that was organised for the purpose of fulfilling the aim of the case study. It is plausible to recognise that the use of mentoring had been successful in developing, to a limited degree, the skills and knowledge in ICT of the participants. This style of training was found to be more effective than the training that they had received as part of their NOF training. The notion of including mentoring in CPD programmes of training emerged as an important, or even fundamental, feature in the first case study and formed the direction of the second case study.

The focus of the second case study, mentoring as being an important feature of CPD, was developed from the outcome of the first case study with the continuity between case studies being maintained through

- the use of mentoring as a form of CPD
- considering the effect of NOF training on teachers' knowledge and skills in ICT and
- developing the teachers' use of ICT technology to enhance teaching and learning

Situational Analysis

The second case study considered mentoring in relation to the use of ICT within the English department of an inner city comprehensive school, recently deemed a Maths and Computing College. The school, since becoming a Maths and Computing College in September 2005, had installed interactive white boards in all classrooms and had provided a limited amount of basic training. Three members of the English department had expressed a concern with regard to their lack of knowledge and skills in the use of the interactive white board. Their endeavour was to use the new technology to bring to their lessons a dimension that otherwise would not have been possible. The aim of the second case study was to develop in the participants the skills to plan a lesson that involved the interactive whiteboard as the central audio visual aid that would capture the students' attention and provide a higher level of excitement and interest in the lesson.

The teachers acquired the ICT skills of:

- scanning pages from a literary piece of work,
- transferring the scanned pages to a power point presentation.
- adding background music to the presentation in order to create an atmosphere of suspense and
- saving the completed work to CD.

The mentoring exercise continued with the power point presentation being used as a teaching aid used to encourage pupils in their writing of suspense stories.

The mentoring began with me as researcher and six teachers from the English department working on the production of a power point presentation following which the participants were given opportunities to observe lessons using a similar presentation as a starting point for analysing a piece of text. The next stage was for the participants to 'have a go' while I observed their individual lessons. The analysis of the piece of text was staged over a number of lessons and used a variety of teaching techniques following which discussions with individual participants took place. The discussions provided opportunities to discuss what went well and how improvements could be made with these improvements being observable in the following lesson.

Content of Second Case Study

After considering the results of the first case study it was evident that mentoring provided purposeful professional development that arose from a perceived need identified from within the staff. The continuity of the second case study built on the notion of mentoring as the provider of professional development while using the skills of resident staff. The need for professional development, as identified by the staff, was the use of the interactive white board to make English lessons more stimulating and this formed the focus of the second case study. Continuity between case studies was further maintained by providing mentoring on a one to one basis the difference being that I acted as mentor. There were practical as well as ethical implications that needed to be considered before the research took place and these are discussed in the methodology section of the second case study.

From initial informal observation, it appeared that current practice within the English department was that the interactive white boards were generally used as expensive dry wipe white boards. I was aware at this point that I was making general statements such as 'appears that' and 'generally used' and these gave broad views as to the present situation. In order to obtain a more concise picture and aid in the assessment of the present situation it was necessary to undertake some data collection prior to the

mentoring exercise actually taking place. Semi-structured interviews with staff, lesson observation and informal interviews with pupils together not only provided a triangulation but also served the purpose of providing me with reliable data upon which to build the next stage of data collection and present a clearer vision as to the direction of the case study.

Background to the Second Case Study

The New Opportunities Fund Information and Communication Technologies (NOF ICT) initiative in the United Kingdom was announced in 1998 with the overall intention that the training provided would

“raise standards of pupils’ achievements by increasing the expertise of serving teachers in the use of ICT in their teaching.”

(NOF, 1998, p4)

Although a programme of CPD was implemented at a cost of £230 million in order to meet the intentions of the NOF, OfSTED’s (2004c) findings were not always complimentary stating amongst their main findings that

“the training programme funded by the NOF continued to disappoint in relation to its stated intentions” and continued that *“where schools provided their own training for staff, sometimes with the help of external agencies, this was generally much more effective than the NOF-funded training.”*

(OfSTED, 2004a, p4)

In its commentary OfSTED (2004a) noted that

“Continuing Professional Development has proved problematic, and has been a cause of severe disappointment for schools and individual teachers.” Furthermore, OfSTED (2004a) adds that *“it (the NOF) did not take sufficient account of teachers’ and schools’*

current needs – even where these were audited – did not recognize the importance of teachers' involvement in making training work for them."

(OfSTED, 2004a, p8)

Without doubt, the NOF training initiative has attracted a considerable amount of negative press but it is incomprehensible to believe that such a major initiative, to equip the whole of the UK teaching force with ICT knowledge and skills and costing £230 million pounds, has no successes to report. This research project does not intend to dispute the findings and arguments presented by OfSTED (2004a, b and c), the TTA (2002) and Conlon (2004) but it presents an appreciation of the view that any new initiative is a focus for convincing arguments that support both negative and positive aspects. Firstly, it is reasonable to suggest that any new initiative, irrespective of its magnitude, travels along a learning curve and the expectation is that changes will be made, whether major or minor, as the initiative progresses along that curve. This can be seen with OfSTED itself where changes and revisions have continued to be introduced to the inspection process since its inception. Secondly, it can be understood that any change in practice has the potential for creating resistance and hostility as teachers are taken out of their comfort zone.

It is worth considering the recommendations of the Teacher Training Agency (2002) when deciding the extent of the success of the training provided by the NOF. Its suggestion is that

"it is worth being aware for future CPD programmes that in this case the needs assessment materials may have raised expectations about the training being highly personalized. But this often could not be met without additional funding."

(TTA, 2002, p 27)

Furthermore, OfSTED (2001a) reported that in addition to schools failing to provide additional funding and hence contributing to the apparent failure of NOF, they also failed to adequately develop the ICT knowledge and skills of their teachers and in some cases schools were in need of upgrading their obsolete technologies. It can be

argued, therefore, that before commenting on the outcomes of NOF training, schools and teachers should consider their contribution to the limitations of its success as there are factors that are influenced more by them than they are by the NOF training initiative.

Conlon (2004) believes that the limited success of NOF was due to a number of factors amongst which he lists:

- *lack of readiness of the technological resource requirements,*
- *failure to motivate teachers,*
- *inattention to the context in which teachers work and*
- *an underestimation of what is involved in developing appropriate knowledge and skills.*

(Conlon, 2004, p115)

Younie (2006) adds to this list by suggesting that the most discernible factor was the number of different agencies involved in the initiative. The multi-agency approach, involving government agencies, ICT supply industries, local authorities and schools, required an expertise of management that Younie (2006) believes did not exist and neither did an understanding of schools and their particular ICT needs by suppliers of telecommunications services. Despite its setbacks, teachers did acknowledge the importance of NOF training to increase confidence and improve practice in ICT (DfES, 2001) and it appears that NOF training did achieve this to a large extent as Younie (2006) reports that

“the positive evaluations regarding NOF referred to teachers’ raised awareness and increased confidence with ICT. Following training, teachers’ ICT skills were enhanced.”

(Younie, 2006, p394)

However, even though NOF achieved its aim in raising the awareness and increasing the confidence of teachers in ICT the DfES (2001) reported that despite huge sums of money being provided for the infrastructure and teacher development in ICT there had not been a transformation of teaching and learning. In response to such a statement I

would suggest that at the time that the DfES produced its report, 2001, staff training under the NOF initiative was still in its early stages and time had not been given for the knowledge and skills gained to become embedded into teaching and learning. Presumably, there would have been teachers who, although having developed their ICT knowledge and skills through NOF training, would have needed follow up training in their pedagogical use. However, three years later the situation appeared to have remained unchanged as OfSTED (2004b) found that

"there remains a sizeable minority of lessons where ICT use was unsatisfactory and recent initiatives have not served to reduce this gap significantly."

(OfSTED, 2004b, p5)

Before accepting these findings it would be necessary to establish their level of generalisability to the complete teaching force. It would be unwise, however, to ignore the findings and recommendations of OfSTED, which together with the DfES (2001) report, suggests that teachers were in need of further training which may need to be tailored to their individual needs due to the differing levels of teacher expertise.

It was suggested above that the DfES report of 2001 was too early to make any firm judgment on the outcome of training provided by the NOF. Furthermore, any initial criticisms of the NOF training need to be tempered by the understanding that they were made early in the process. It is evident that new initiatives can take time to have measurable effects. For example, Brunner (1992) and Elmer-Dewitt (1991) suggested that it can take as long as five to six years for teachers to feel in command of educational technologies and it is not until they have experienced a long exposure to new initiatives and newly gained knowledge and skills before changes in classroom behaviour become evident. Similarly, Fullan (1992) claimed that teachers' beliefs gradually change as a result of them working in an altered environment. Implicit in this is that a more accurate view of teachers' attitudes towards NOF training and the application of newly gained knowledge and skills would be gained if gathered some time distant from the training. As time is an important factor when judging the affects of change, it is not surprising that the DfES (2001) state that

“the implementation of such a major innovation - one involving procurement and installation of high-cost infrastructure and hardware, and significant changes in management and teaching practices - takes time.”

(DfES, 2001, p4)

When discussing the factors of time and change, Fullan and Stiegelbauer (1991) suggest that

“the number and dynamics of factors that interact and affect the process of educational change are too overwhelming to compute in anything resembling a fully determined way.”

(Fullan and Stiegelbauer, 1991, p47)

It can be understandable, therefore, that Younie concludes from research on policy implementation and reform in education that *“it is well known that change is either very slow or tends to fail.”* (Younie, 2006, p385). Furthermore, Younie (2006) reveals

“that implementing government policy on ICT in education is a complicated process, is multi-faceted and is far from a singular straightforward translation from policy to practice.”

(Younie, 2006, p386)

Younie (2006) continues to explain that the complex procedure involved in the implementation of government policy

“has to be filtered through macro, meso and micro levels, as policy is mediated through national agencies (macro), regional agencies (meso) down to individual schools and teachers at the micro level.”

(Younie, 2006, p385)

Understandably then, due to the complex nature of the implementation of the NOF initiative as explained by Younie (2006), there may be individuals/organisations who hold the belief that the outcome of the initiative was on the whole unsuccessful.

However, an understanding of the complex process needs to be understood if such a belief is to be justified, as Younie (2006) states that

“policy aims can be achieved if an awareness of the complexity of the implementation process is maintained.”

(Younie, 2006, p385)

Hadley and Sheingold (1993) suggest that an important factor upon which the success of the implementation process relies is related to personal factors, such as *“teachers’ doubts, lack of interest or knowledge about computers.”* (Hadley and Sheingold, 1993, p283).

It appears that the NOF initiative has had some success in changing teachers’ attitudes towards computers and ICT because OfSTED (2004a) was able to report, amongst its less than positive findings, that

“the incidence of the effective application of ICT in lessons across subjects is increasing slowly but steadily. The impact of ICT on teaching was rated satisfactory or better in 77% of the schools visited, a slight increase since the last report. The quality of teaching in lessons where ICT is used has improved.”

(OfSTED, 2004a, p4)

Following which

“ICT is starting to have a pervasive impact on the way teachers teach and children learn.”

(OfSTED, 2004a, p4)

My own interpretation on the causal effect of this finding is that CPD provided by NOF, together with further training organized and supported by school leadership, led to an improved attitude towards computers as well as an improved status of the application and impact of ICT in lessons.

In support of the NOF initiative, Picciano (1998) provides an awareness that the varying skills and abilities that exist amongst the teachers employed within a school community make it almost impossible to provide a one-fits-all CPD programme as offered by NOF. Furthermore, Picciano (1998) suggests the need for follow up training, possibly organised within a school setting, that has the ability to offer multiple topics allowing teachers to participate in courses that satisfy their own needs. The organization of this style of CPD is entirely dependent on the management of the school and the importance they place on ICT as a whole-school focus. Where schools did support further training OfSTED (2004a) was able to report that levels of competence in ICT among staff had been raised and in such cases the training was successful.

The success of the NOF initiative cannot be entirely judged on the initial training that it provided. Changes in the attitudes, behaviour and practices of teachers are rarely immediately recognizable on account that change is a process that cannot be expected to happen without allowing time for CPD to be operationalised. It can be understood that change depends on a number of variables; such variables are categorized by Twining (2002) as personal factors, institutional factors and pedagogical factors. The authority of a school's management has the power to influence the outcome of such factors, a viewpoint that underpins many of Fullan's (1992) key themes. Twining (2002) also suggests that the support of management is of major importance to successful implementation, and this does not exclude management providing technical support for ICT. OfSTED (2004a) found that where technical support for ICT is in place

"it generally improves the reliability of ICT resources, which in turn significantly raises teachers' confidence to use ICT in lessons."

(OfSTED, 2004a, p5)

Schools do not stand alone; they are part of a local and national structure and as such are part of a much wider network of support. Fullan (2005a) discusses the idea of all schools in an area having a moral obligation to improve the teaching and learning in all of those schools. It is realistic, therefore, to expect the support of the Local

Authority in a school's endeavours to facilitate change. As a consequence of the NOF initiative, OfSTED (2004a) reported an improvement in the support provided by Local Authorities (LAs), which they found

"draws together the different strands of provision. Other significant factors include: professional, experienced ICT teams which maintain good working relationships with school staff; guidance and support materials that complement national strategies and other developments; and well-established, effective and varied systems for disseminating good practice."

(OfSTED, 2004a, p5)

Although OfSTED (2004a) suggests the need for support from *"experienced ICT teams"* and the importance of providing *"effective and varied systems for disseminating good practice,"* as provided by LAs, it is possible that similar support could be available within the school setting. Staff who are experienced, competent and confident in ICT may possess the expertise to offer support and disseminate good practice and therefore the suggestion is that school management teams consider developing programmes of CPD that utilise the skills of their own staff but not necessarily to the exclusion of outside bodies.

The Use of Mentoring to Enhance NOF Training

Although there has been some criticism levied against the training in ICT provided by the NOF initiative, and this can be expected taking into account the extent of the programme, it can be argued that it is not without its accomplishments and achievements especially when considering the progression in the use of ICT in schools since its implementation. However, despite the provision of training, there are some teachers who are still insecure about using ICT and therefore there exists an opportunity to build upon the foundation provided by NOF training in order to develop further the knowledge and skills of individual teachers. The second case study of my research utilises mentoring as a means to overcome the shortfalls of NOF

training in the area of providing for the individual needs of teachers. The DfES (2001) suggested that

“to optimize the effectiveness of NOF training, schools need to have the opportunity to select training that is customized to the needs of their particular staff.”

(DfES, 2001, p13)

ICT training within the second case study was used as a vehicle to show the potential of mentoring as a tool to support CPD in ICT by revealing that it had the capacity for offering personalised training, customised to the needs of the participants at little or no additional cost to the school.

The second case study also responded to the suggestion that it is the *“failure to motivate teachers”* and the *“inattention to the context in which teachers work”* (Conlon, 2004, p115) that contributed to the limited success of NOF. Mentoring was used due to its ability to provide training that was individual to the teachers participating in the project and, due to the fact that the training took place in the work place, it was conducted in context to the environment in which the participants worked; the context being the use of ICT, in particular the use of the interactive white board (IWB), in the teaching of English in an inner city comprehensive school. It was my intention to explore whether mentoring would facilitate the motivation of teachers to update and develop their skills and knowledge in ICT. It is in their report, one year after the completion of the NOF programme, that OfSTED (2004b) identify that

“New Opportunities Fund (NOF) training has not had a positive, long-term impact on ICT in English in most schools. Subsequent school-focused training has often been more successful, since it has more closely identified teachers’ existing knowledge and what needs to be done to improve it.”

(OfSTED, 2004b, p4)

Implicit in this response to school inspections is that training in ICT in English is more successful when it is school-focused and addresses the needs of individual teachers. It is understandable that if these criteria are not met then the teachers

involved in the training taking place will lack motivation when returning to the classroom, a sentiment shared by Conlon (2004). Where OfSTED (2004b) reported positively on the outcomes of NOF training, they gathered evidence from English teachers with regard to their training in ICT since their initial NOF training and found that

“teachers speak more positively about the training provided since their initial NOF course” identifying that this “has been more successful because it has been able to build more directly on teachers’ existing skills.”

(OfSTED, 2004b, p11).

It is possible, therefore, that by offering follow up training in the form of mentoring on a one-to-one basis it would be possible to respond directly to the needs of the participants while building on their existing skills. OfSTED (2001b) did recognise that overall, NOF did contribute to an increase in teachers’ confidence with computers but

“only rarely to the pedagogic expertise to help them make the most effective use of ICT in their lessons.”

(OfSTED, 2001, p4)

The main focus of this second case study, therefore, was to consider mentoring as a means for enhancing the delivery for CPD in the use of ICT in a secondary school English department. By addressing the delivery of CPD through mentoring, the findings of the second case study would hopefully suggest to senior leadership in schools that mentoring may be used to complement the training received from NOF in order to better address the needs of individual teachers, particularly in developing their pedagogic expertise. The collegiate nature of the model of mentoring adopted in this study

- a) supported the development of ICT by sharing best practice between mentor and mentee,
- b) responded to Fullan’s (1991) suggestion that a teacher’s preferred source of knowledge is known to be other teachers and

- c) took note of Younie (2006) who suggested that schools and departments developed effective subject pedagogy using ICT where teachers were mutually supporting one another.

Mentoring as a Model for Continuing Professional Development

Findings identified through research carried out by Gonzales and Thompson (1998) in the United States of America were similar to those reported in the UK with regard to the lack of use of ICT in the classroom. Within their research they reported that technology was not being successfully integrated into the curriculum and this, they suggested, was due to a number of factors among which they included a lack of knowledge with regard to available software, constraints of time and a lack of vision towards the power of using ICT as a teaching tool. In order to encourage the use of technology as a tool for teaching Gonzales and Thompson (1998) introduced a mentoring programme that involved university technology students mentoring faculty teaching staff on a one-to-one basis. They refer to this style of mentoring as being 'reciprocal' and explain that reciprocal mentoring differs from the usual style of mentoring where a more experienced teacher and senior person guides a less experienced one. With reciprocal mentoring it is a less senior and less experienced person who acts as the mentor in terms of seniority as a member of staff or as an undergraduate student mentoring their subject with a tutor from a different discipline acting as the mentee. The style of mentoring that featured in this study consisted of three key features:

1. the mentoring was reciprocal,
2. the mentoring took place on a one-to-one basis, and
3. the mentor was an expert in technology but not necessarily in the use of technology within the curriculum.

One-to-one mentoring has been reported by others as a valuable tool in providing and supporting the professional development of teachers (Strudler, 1991; Thompson et al,

1996). It not only encourages the development of a close relationship between mentor and mentee but also alleviates some of the pressures of time, in that the mentor shares their experience and knowledge with the mentee and by doing so time is not wasted through learning by trial and error on the part of the mentee, a factor that is very often noted as being problematic when developing training programmes.

The findings of Gonzales and Thompson (1998) show that four out of the five faculty members who took part in the one-to-one mentoring study

"were enthusiastic and made great leaps forward. The one faculty member who did not make great strides met very few times with his mentor, mainly because of time constraints he had with a new administrative position."

(Gonzales and Thompson, 1998, p165)

Findings of the study carried out by Gonzales and Thompson (1998) showed that mentoring worked as a form of CPD. Evidence of the effectiveness of one-to-one mentoring was provided and in addition to the success of what has been termed 'reciprocal' mentoring.

On the topic of CPD, I was particularly interested in reading the article by Dawson (1978) because in its opening I felt that he was writing ahead of his time. Dawson (1978) had predicted that in the next few years, education

"will be marked by a retrenchment in budgets, size of staffs and investments in new materials and facilities. In such a situation, what will probably take on much greater significance is the in-service education of those teachers presently employed by school boards. It seems timely then to examine the process of in-service education."

(Dawson, 1978, p49)

His believed that it is important

“for teachers to take a dominant role in the design and implementation of in-service programs.”

(Dawson, 1978, p49)

I have a feeling that, if he had written a decade or two later, Dawson (1978) may have referred to the inclusion of mentoring in programmes of CPD. He continued to state that although well intentioned, CPD programmes that are imposed on teachers from above are destined for failure and that although vast sums of money may have been allocated to CPD programmes to match the very large number of innovations introduced into education, the results have been disappointing, with little permanent effect on the teachers and no significant improvements in the quality of education.

From his own personal experiences of CPD while employed as a mathematics teacher, Dawson (1978) reported that the leaders had no idea of his teaching situation and how their proposals could have been implemented for the benefit of the students in his classes. His personal experiences led him to the following conclusion

“Any in-service program imposed on teachers, which does not confront teachers at their own level of perception of reality, is destined to failure. In-service education, to be successful, to have permanent lasting effects on teachers and subsequently on their students, has to be generated dynamically by the teachers themselves, from their views of classroom reality.”

(Dawson, 1978, p51)

He continues

“A potentially more powerful model for in-service education will include the means for teachers and resource personnel to engage in dialogue with each other as equals, without teachers being subordinated to the leader or vice versa.”

(Dawson, 1978, p52)

In addition to the teacher's needs being central to the content of CPD programmes, Dawson (1978) warned that

"one-shot, one-time-only in-service day or half-day" programmes will "constitute a waste of both time and money by teachers, school boards and resource personnel."

(Dawson, 1978, p52)

It is possible to identify many forms of CPD in relation to the continual updating of teachers' professional knowledge and skills with the ultimate goal of improving the teaching and learning that takes place within the classroom. Training may be self-directed, school-directed or even LEA organised taking place away from the classroom. Whichever form CPD takes it can be argued that the ultimate goal is concerned with the improvement of classroom practice (Harland and Kinder, 1997). Friedman and Philips (2002) add to the understanding of the meaning of CPD by describing it as

"a framework of learning and development activities, which are seen as contributing to a professional's continued effectiveness."

(Friedman and Philips, 2002, p273)

It can be argued that an effective CPD programme manifests itself in the positive impacts it has on teaching and learning, hence contributing to its continued effectiveness, in instances where CPD is sustained and collaborative (Cordingley et al., 2004). Furthermore,

"collaborative CPD includes teachers working together it does not include individual teachers working on their own."

(Cordingley et al, 2003a, p1)

Implicit in the research conducted by Cordingley et al. (2003a) is the notion that for professional development to be effective, and therefore have a positive impact on teaching and learning, it needs to be collaborative, build systematically on existing practice and provide planned opportunities for teachers to observe and practise. The

use of mentoring as a form of CPD may in this instance be used as it fulfills the criteria suggested in the work of Cordingley et al. (2003a).

A model of effective CPD can be seen in the joint project undertaken between Greenwich Millennium Primary School, the local education authority and the DfES. (Edmonson, 2003). The purpose of the project was to consider styles of computer training that would lead to the enhancement of teachers' competence and confidence to use ICT. A report on the project was prepared by Edmonson (2003) and in it she states that

"training is most successful when it is delivered at school and focused on skills that are relevant to teachers' everyday lives," and where teachers are "involved with the planning and design of the training."

(Edmonson, 2003, p2)

Unlike NOF, the training devised at Greenwich Millennium Primary School

- responded to personal needs,
- responded to the skills and understanding required for teaching ICT and using ICT to enhance teaching and learning in all curricula areas,
- considered varying skill levels,
- considered diverse attitudes towards using computers,
- was school based and
- was designed specifically to meet the needs of a staff in a unique situation.

The success of the training, which was supported by external courses funded by the NOF, was built on the provision of one-to-one contact with an expert in addition to allowing opportunities a) to model the teaching of an ICT skill and b) to team teach with ICT in the classroom. Support featured greatly in the training as not only was it made available by the experts, that is to say the school's ICT coordinator and the ICT advisory teacher, but also by colleagues who were participants in the training. Implicit in the report was the importance of time, as much time was given to staff meetings, INSET days, non-contact time and opportunities to 'play' with the computer.

Edmonson (2003) refers to the criticism made by staff towards externally run courses stating that they found them too long where *“the level of information did not match their abilities.”* (Edmonson, 2003, p6). Sufficient time was not given to ‘play’ and the content was not relevant to their needs. These findings are not too dissimilar to those of OfSTED (2004a), OfSTED (2004b) and TTA (2002).

The collaboration between teachers, as is evident in the study carried out by Edmonson (2003), is also considered to be an important aspect of CPD by Duncombe and Armour (2004). They refer to such collaboration as Collaborative Professional Learning (CPL) and explain that CPL

“is a form of Continuing Professional Development (CPD) that involves teachers working or discussing together to improve their own or others’ understanding of any pedagogical issues, using processes and concepts such as mentoring.”

(Duncombe and Armour, 2004, p5).

The benefits of creating a situation where staff are paired and encouraged to learn from one another when developing a CPD programme is recognized by Kennedy (2005). She explains that mentoring is one of a range of models that can be used *“as a means of introducing or enhancing knowledge, skills and attitudes.”* (Kennedy, 2005, p236). The defining characteristic of mentoring, she continues,

“is the importance of the one-to-one relationship, generally between two teachers, which is designed to support CPD.”

(Kennedy, 2005, p242).

Developing a one-to-one relationship in CPD through the context of mentoring is distinguishable by the fact that it promotes *“counseling and professional friendship”* (Rhodes and Beneicke, 2002, p301) with a relationship existing where one of the pair is a novice while the other is more experienced (Clutterbuck, 1991). This mentoring relationship, Kennedy (2005) explains, can either be described as ‘collegiate’ as in peer-mentoring where both the mentor and mentee are seen as equals, or ‘hierarchical’ where the mentor is more experienced than the mentee. Whichever relationship does exist the key to the mentoring model, according to Kennedy (2005), is the notion that

"professional learning can take place within the school context and can be enhanced by sharing dialogue with colleagues."

(Kennedy, 2005, p242).

In conceptual terms, however, there exists a clear difference between the two styles of relationship that may be observed in the mentoring model. The novice/experienced model provides support for the novice in gaining and applying new skills and knowledge whereas in a relationship where both the mentor and mentee are on a more equitable standing the process proceeds in a less hierarchical and threatening manner. Whichever style of relationship is adopted, the mentoring model of CPD can

"support either a transmission view of professional development, where teachers are initiated into the status quo by their more experienced colleagues or a transformative view where the relationship provides a supportive, but challenging forum for both intellectual and affective interrogation of practice."

(Kennedy, 2005, p243).

Implicit in the success of mentoring as a form of CPD is the quality of the relationship that exists. Rhodes and Beneicke (2002) support this view and believe that in order for the mentoring model of CPD to be successful participants must have well-developed interpersonal communication skills. Kennedy (2005) concludes her discussion on the key characteristics of the mentoring model of CPD by stating that the model is reliant on

"a one-to-one relationship, (and that) it can, depending on its underpinning philosophy, support either a transmission or a transformative conception of CPD."

(Kennedy, 2005, p243).

The Concept of Mentoring in Relation to the Context of the Second Case Study

From data collected through semi-structured interviews with staff that took place prior to the second case study mentoring activity, it was clear that further ICT training following the NOF needed to be individual and build on the current knowledge and abilities of staff. The six teachers interviewed for the second case study were members of the English department and through informal conversations, that were recorded as field notes, I learnt that due to the introduction of interactive whiteboards (IWBs) into the classroom each member of staff had agreed with their line manager that one of their developmental points would be related to the use of the IWB to improve teaching and learning. This very closely related to concerns highlighted in the teacher interviews where it was noted that staff found that ICT training received through CPD did not particularly match the needs of individuals and that a one-to-one situation would be preferred. This finding was characteristic of those mentioned in the studies of Strudler (1991) and Thompson et al. (1996), and here existed an ideal opportunity to deliver individual training through mentoring. There were, however, two considerations that needed to be taken into account:

1. the varying skills and knowledge of each member of staff in relation to ICT and
2. how to overcome the possibility of having to provide mentoring situations where the focus would be different for each member of staff. Such a situation would prove to be very time consuming.

The message emerging from the teacher interviews was that the style of CPD required by staff supported the transformative rather than the transmission model of CPD. The requirement was not to implement reforms and provide award-bearing CPD as was the case with the original NOF provision. Rather it was to provide CPD that was considered to be

“supporting teachers in contributing to and shaping education policy and practice.” This style of CPD “would align itself more naturally with transformative models.”

(Kennedy, 2005, p248).

It was agreed between mentees and mentor that the focus of the activity would be common to all, that being the use of the IWB as an aid to the teaching of writing suspense stories. The one-to-one aspect of the mentoring activity would relate to the production of the materials using ICT and its presentation to the pupils using the IWB. It was hoped that outcomes of the mentoring exercise would satisfy the following criteria:

- motivate teachers
- attend to the context in which teachers work
- be school focused
- build on existing practice
- be self (teacher)-directed
- mentees involved in planning of the activity
- identify teachers’ existing knowledge
- address the needs of individual teachers
- integrate technology into the curriculum
- encourage technology as a tool for teaching
- provide support in the professional development of teachers
- develop a close relationship between mentor and mentee
- provide planned opportunities for observation and practise
- mentor sharing experience and knowledge with mentee
- encourage future collaborative work

By fulfilling the above criteria the mentoring activity proved to be a success with the fundamental outcome of an improvement in classroom practice, and hence an improvement in teaching and learning was achieved.

Subject of the Second Case Study

The style of mentoring adopted in the first case study was on a one-to-one basis with teachers from a primary school setting mentoring one another whereas the style of mentoring within the second case study was one mentor mentoring six teachers individually working in a comprehensive school setting.

Aim of the Second Case Study

As with the first case study, the aim of the second case study was to develop teachers' skills in the use of ICT and by doing so increase its use within the classroom. Since the first case study, however, the innovation and introduction of the IWB into classrooms had become common place and so making its use a priority for many teachers. For this reason the use of the IWB as a teaching and learning tool became the focus of the second case study.

Organisation of the Second Case Study

Each member of the English department worked with a mentor, the same mentor for each mentee. Unlike the first case study, where staff were paired in order to create a situation whereby staff had the opportunity to learn from one another, the mentor in the second case study was the person who was providing the learning. This change in style of mentoring demonstrated its adaptability to accommodate the objectives of each different situation. In my own research, not only was the objective of the first case study for staff to share their knowledge and expertise in ICT but also to share their knowledge and expertise in the Key Stage within which they worked, with a colleague who worked within the other Key Stage. This style of mentoring suggested a one-to-one mentoring, pairing Key Stage one staff with those from Key Stage two while at the same time ensuring that one of the pair was more knowledgeable and expert in ICT than the other. The situation that existed within the second case study, however, was for one mentee to cascade/share knowledge with the members of a

subject department. This meant that although there was some continuity between case studies in that the mentoring was on a one-to-one basis, the second case study had a one-to-many style in that one mentor acted as mentor to many mentees although each mentee received individual mentoring.

The mentor in the second case study worked with the mentees on producing a teaching aid for use on the IWB. A scanner was used to scan pictures from a book to which were added sound effects downloaded from the internet. The mentor and mentees co-planned and co-taught using this IWB teaching resource.

Methodology Used for Second Case Study

Ethical Considerations

Considering the fact that the second case study focused on a teaching and learning innovation that involved pupils it was felt important that the situation was discussed with the pupil participants and their consent gained. This was carried out as part of the introduction to the pre-mentoring exercise pupil group interview.

It is understandable that when working with pupils the outcomes may differ quite significantly when attempting to replicate an exercise with a different group in a different situation and therefore it may be argued that the research may become, to some extent, subjective. However, the use of questionnaire or experiments was disregarded as these

"are unlikely to give an accurate portrayal of the realities of teaching in a natural or conventional setting."

(Crossley and Vulliamy, 1984, p198)

Adopting the rigidity of experimental research would have meant losing the rich description and detail of the educational setting that qualitative research offers and therefore the generalisability of its findings would have been less valid. I believe this to be the case for this particular piece of research because although in another setting

the class, the teacher and the culture of the school may be different, by adopting the same research methodology any differences would be better described and explained and so putting readers in a better position to be able to make more informed decisions as to its generalisability for their particular situations.

It was deemed important, therefore, that the rigour of the second case study should produce descriptions that accompany qualitative research, that are truthful, just and fair. For this purpose staff and pupil interviews and lesson observations were accompanied by informal observations and discussions with staff and pupils and recorded as field notes. The entries recorded in the field notes diary were found to be very useful in building the picture of the situation prior to the second case study mentoring activity taking place.

It was important to maintain privacy and confidentiality and to build an atmosphere of trust especially when there were instances of potential differences of opinion between staff that were only made known to me as a researcher. I found it even more important in these instances to give written feedback to individual participants as soon as was physically possible in order to ensure firstly that there was no misinterpretation of what was discussed and secondly that the participant was happy with what was being reported. I was selective in such a way that would not reveal identities, would respect privacies while at the same time including in my report sufficient detail that would maintain the significance of the situation. I felt that by being honest in this way a trust developed between the participants and me and consequently I believed that their comments appeared to be more accurate.

Pupil Group Interview

The group selected for the pupil interview consisted of twelve pupils made up of one male and one female chosen from each of the six teaching groups. Although The Open University (1994) suggests a group should number no more than eight it was felt that the six teacher participants should have representatives from each of their classes. The pupils were selected by their prospective teachers and it was decided that

the criteria for selection should be based on their ability to speak openly within a group situation. The interview was conducted in the school library as this was a place where all pupil participants would feel comfortable considering the fact that the English department had their cluster of computers situated there and therefore all teachers in the English department regularly conducted their lessons in the library. The timing of the interview was restricted to approximately fifteen minutes as it was felt that any longer would possibly result in the group losing concentration although additional time was planned if it was recognised that pupil responses were still valid. This is within the limit of thirty minutes suggested by Faux et al. (1998) who believe that interviews lasting longer than this are likely to tax powers of concentration. Ethical issues addressed, as suggested by Morison et al. (2000), were the pupils' rights of autonomy, privacy and confidentiality. Permission to interview the pupils was obtained from both the pupils themselves and the headteacher with pupil participants being assured of confidentiality and the opportunity to review the transcription of the interview before the data was used. The interview was recorded using researcher hand written notes that were transcribed and reported back to the group within a week in order that they may agree, or otherwise, that what was being reported was actually said. This practice added to the reliability of the research.

The purpose of the interview was to gain a pupil perspective of their English lessons and to offer them the opportunity to discuss the possibility of room for improvement. A follow up interview was conducted after the mentoring activity with the same group of pupils for the purpose of comparing their responses with those of the initial interview. From this data it would be possible to assess the success, or otherwise, of the mentoring activity and to decide whether or not a change in teaching and learning had occurred. The importance of collecting information from pupils is explained by Kortessluoma et al. (2003) who says that by interviewing children

"it is possible to collect data that are otherwise unobtainable. As a method of accessing children's perspectives, it has much to offer."

(Kortessluoma et al., 2003, p435)

In this situation it would not only be interesting but also important to obtain a pupil's perspective on the teaching of suspense story writing as only a pupil can truly

describe their feelings and emotions whereas as teachers and researchers we can only make assumptions of the pupils' experiences. Morison et al. (2000) support the importance of interviewing children, as they say that

"interviewing can provide unique opportunities for researchers to gain some understanding of the child's subjective experience, where other means of data collection, such as questionnaires, may be inappropriate."

(Morison et al., 2000, p113)

In some instances, Morison et al. (2000) continue to explain, other sources of data such as parents and teachers are less valid as these sources may not capture the fundamental nature of a situation that involves the participation of children.

The pupil interview, together with teacher interviews and lesson observations, formed the triangulation for the second case study. In addition, a selection of pupils' books was scrutinised pre- and post-mentoring activity and their work compared by all six mentees together with the mentor. The purpose of this activity was to decide whether or not the mentoring activity had made any difference to the standard of work produced by the pupils implicit in which would be a successful outcome of mentoring as a form of teacher development.

Teacher Interviews (Semi-structured)

Pre-mentoring teacher semi-structured interviews were used in order to gain an insight into a perceived problem relating to the training received by teachers in the area of ICT and in particular the use of IWBs in the teaching of English. Interview responses identified the needs and priorities of those taking part and gathered qualitative information relevant to this specific issue. The responses from all teachers were considered in order to decide on the mentoring activity that would fulfil the needs, as much as possible, for all teacher participants. Post-mentoring semi-structured interviews confirmed what was observed during the lesson observation, which took

place during the mentoring activity, and what was found from a scrutiny of the pupils' work following the mentoring exercise.

The structure of the interviews was such that each interview began with specific questions and although there was an element of questioning whereby the questions were designed and prepared in advance, the interviews were conducted within a fairly flexible framework that allowed each interview to follow a focused two-way conversation.

Lesson Observation

Lesson observations took place before and during the mentoring exercise. Observations made pre-mentoring were used to develop a holistic understanding of the perceived problem as identified by the pre-mentoring interviews whereas during the mentoring exercise the observation took the form of participant observation. Although participant observation is used to increase the validity of a project, its use here as a data collection method complemented the mentoring exercise that was taking place. In other words, the fact that the mentoring exercise taking place involved an element of co-teaching meant that I was a participant in the lessons and therefore any observations made were as a participant observer.

Book Scrutiny

The scrutiny of pupils' written work was used to gain an impression of the level of their work. A comparison of the work produced pre- and post-mentoring, together with teacher and pupil interviews, confirmed the effects that the mentoring exercise had on the teaching and learning that took place.

Data Analysis

Data was collected through semi-structured interviews with staff, lesson observations, informal interviews with pupils, field notes and examples of pupils' work post mentoring. These methods were used to collect data pertaining to the usefulness of mentoring as a tool to enhance CPD and its success in improving the teaching and learning that takes place within the English lesson.

Data collected at the start of the second case study was enlightening in that it gave a perspective on the training needs in ICT for a group of teachers working in the English department of an inner city secondary school.

The teacher semi-structured interviews were organised into three main sections; 'training', 'current skills and knowledge' and 'needs for training'.

Findings of Second Case Study (pre-mentoring)

Training in ICT

All staff interviewed confirmed that the use of ICT was commonplace in their classrooms although the diverse levels of training and confidence in ICT had led to a varied use of it within the classroom. Evidence collected through classroom observation confirmed the wide-ranging use of ICT in the teaching of English. Part of the funds received through the school becoming a Maths and Computing College had been spent on equipping all classrooms with an Interactive White Board (IWB) almost twelve months previous to this research taking place. However, it was clear from staff that there had been a limited use of this piece of ICT equipment, due mainly to the poor level of training received since the installation of the IWBs and the low level of confidence in the use of ICT. When discussing the skills and knowledge acquired through training, Michael said that he had acquired none other than learning that

"the Promethean Man is a file button - that's about all I have ever learnt and that I could have found out from a manual - I have learnt a quirk of a piece of software."

Nadia expressed strong feelings about the poor training she received in ICT, in particular in the use of the IWB. She explained that

"if you do not learn how to use the IWB after one hour on an advanced level then the insinuation is that you are incompetent or lazy or disorganised or weak in character or a technophobe."

Following on from the teacher interviews it was apparent that Michael and Nadia were at different levels of confidence in the use of ICT. Michael clarified that

"training hasn't impacted on the teaching and learning but my own personal knowledge has."

Furthermore, he believed that his competence in ICT allowed him to use it within the classroom to enhance his teaching and hence the pupils' learning. In contrast, Nadia considered her skills and knowledge to be inferior to those of her pupils and when asked if she was competent enough to use ICT in her teaching, her response was

"Don't think I am, no. No, not really. Not if I am being honest."

Selecting Michael and Nadia as an example, it was apparent that there were differences in experiences and confidence in the knowledge and use of ICT amongst the participant teachers. However, the commonality rested within the training that they had received during, and since, the implementation of NOF. Michael explained that the training he had received on his PGCE course was related to the preparation of a PowerPoint presentation. He stated that the training

"was really a waste of time as I had used it before - played around with it myself previously. Anything I have wanted to know I have applied previous knowledge to my current needs and also if there is

a situation where I can't figure it out I know a number of people who I can fall back on."

Nadia's experiences of ICT courses were similar to those of Michael as she explained

"that what I have learnt has not been as a result of training."

She qualified this by admitting that she had problems remembering what she had learned on courses. She recalled attending a two hour PowerPoint presentation course where she found the trainer to be "*obnoxious*" and couldn't remember anything that was presented to her. A few years later, after failing a TTA test in ICT twice, she taught herself the knowledge and skills required with the help of her pupils.

The experiences of Michael and Nadia accentuate the notion that the training of teachers in ICT over the recent past had not been as successful as the Government had intended, in fact participants judged some of their training to be poor. Tom described his trainer as being

"terrible, obviously not a teacher. Didn't like the way the teaching was done - all sat in rows bored out of my brains."

Even when

"there were little bits that were useful like organising folders and copying and printing more than one document at a time from saved folders."

Sean considered his training to be basic and did not consider it to be effective. The reason for this, he explained, is that it "*didn't fit what I was looking for.*"

To give a balanced view of training in ICT, even those participants who found some of their training not to be worthwhile found that other training was quite useful. Tom, for instance, although he found his NOF training to be formal, found it interesting and was

“allowed to choose workshops on programs that we were not sure of eg Microsoft PowerPoint. There were also sessions on organising folders and copying by clicking and dragging icons - that was brilliant.”

He continued

“I’m sure there are lots of things that I must have learnt but that is the one thing that really sticks in my mind and that I use often.”

The analysis of the teacher interviews illustrated the impact of formal training on the acquisition of knowledge and competence in ICT. It illustrated that while some participants did learn something from formal training the majority of the learning was a result of self teaching or learning from others. The weakness with formal training could be assigned to the fact that training was either too time consuming, arranged at inconvenient times, not relevant to classroom practice and did not match the individual needs of the teacher. In addition, little follow up support was given and the support that was provided was led by staff inexperienced in presenting the material.

Evidence of these six areas of concern was supported by responses received in the teacher interviews. A selection of the relevant responses are summarised in the table below:

Area of Concern	Teachers' Responses
Time consuming	<ul style="list-style-type: none">• Some courses are a total waste of time.• Four day course followed by a one day equivalent at home working in the evenings.
Inconvenient timing	<ul style="list-style-type: none">• Didn't want to go because started after 4.30 pm.• It was on a Monday and OfSTED was in on Tuesday.
Not relevant to classroom practice	<ul style="list-style-type: none">• I tend to learn the things that are useful to me.• The course should be relevant to what you want and use the equipment you have.
Does not match individual needs	<ul style="list-style-type: none">• Assumed that we all had the skills.• I don't want to practise drawing tables in excel, I know how to do that, I need to practise other skills that are relevant to what I need.• Followed the same course no matter what stage we were at. Didn't teach me anything really.• Training always seems to be aimed a bit lower than I need.• It always seems to be the basic stuff just to get you going.• Assumed a certain amount of previous knowledge.
No follow up support given	<ul style="list-style-type: none">• You go through all this training for nothing because they (the trainers) don't support you.• There's nobody to turn to after you've completed the course, you're just left to sink or swim.
Inexperienced trainer	<ul style="list-style-type: none">• Trainer made it seem really difficult.• Training so bad that people who said that they knew nothing about IWBs were telling her (the trainer) what to do.• I got lost after the first five minutes, didn't like to stop the teaching as it was progressing at the rate of knots and pretty soon I became completely lost.• The teaching was awful.

Figure 5.1 Teacher Interview Responses Highlighting the Six Areas of Concern in Respect of Formal Training in ICT.

Although the evidence cited here is related to a small number of teachers, the analysis of teacher interviews from this piece of research confirmed that the majority of responses supported the notion that the teachers' previous training in ICT had been unsuccessful. It should also be noted that the findings from this research are similar to those found in other significant pieces of research. For example, OfSTED (2001b and 2002a) reported on the impact of NOF training in schools and concluded that the training did not recognise the different starting points of the trainees. There appeared to be a lack of differentiation in the training programmes where the highly competent users were not stretched and for the less competent the standard was too high for them

to gain the confidence to progress along with the course. In my own limited piece of research Nadia found her training to be *“really difficult”* and *“a humiliating experience”*. She continued to explain that she felt *“really angry about it”* and believed that *“sometimes you have to learn things on your own terms.”* The results of research undertaken by Galanouli et al. (2004) reported similar findings with teachers reporting that following training they felt inadequate with teachers worrying unnecessarily. Galanouli et al. (2004) also found that teachers thought their NOF training was unnecessary as it produced three months of stress only to carry out tasks that they considered being not worthwhile. When talking about her own training, Nadia suggested that trainers should *“make it so that it is relevant”* a statement that Jackie agreed with as she pointed out that *“if it’s useful to you then you’ll remember it, use it and then become expert.”*

The overriding opinion that emerged from the teacher interviews that I carried out was that training in ICT had not been successful although when asked if he found the training effective, Tom’s initial response was negative but added

“although to be fair there have been moments when it has been useful.”

This positiveness was short lived as he followed it with

“I tell you what really annoys me is when you go on a course and the equipment you are using there isn’t in school - what a waste - what’s the use of going on a course like that?”

Tom’s response is perfectly echoed by that of a participant in the research conducted by Galanouli et al. (2004). The inclusion in their report is as follows:

“Some respondents expressed positive attitudes to NOF but with reservations regarding various aspects of its delivery, e.g. ‘NOF training is fine but if schools do not have the resources/computers in school in sufficient numbers then teachers cannot put their training into practice.’ (A Primary teacher).”

(Galanouli et al., 2004, p73)

To summarise this section on Training in ICT, it would be reasonable to suggest that the findings of my limited research corroborate those of Galanouli et al. (2004) whose research involved a sample of nine hundred teachers from primary and secondary schools in Northern Ireland. In their write up they report that

“the results suggest NOF training has had a measure of success in increasing teachers’ confidence in using computers in their teaching but that this has been tempered by a considerable degree of negative reaction to form and content of the training.”

(Galanouli et al., 2004, p63)

This section has introduced some of the problems highlighted by the participants that they believe are associated with the apparent failure of the NOF training to equip teachers with the competence and skills to use ICT within the classroom. These problems appear in Table 1 above as areas of concern and are summarised below. The references included in brackets refer to literature where similar findings have been identified:

NOF training failed because it:

- Was time consuming. (OfSTED, 2004a, p22; TTA, 2002, pp34 and 37).
- Was arranged at inconvenient times. (Kirkwood et al., 2000, pp 8 and 11).
- Was not relevant to classroom practice. (Baylor et al., 2002, p4; OfSTED, 2004a, pp22 and 25; Preston, 2004a, p9).
- Did not match individual needs. (OfSTED, 2004a, pp8, 22 and 24; Preston, 2004b, p43).
- Did not provide follow up support. (OfSTED, 2004a, p23; TTA, 2002, p34).
- Was presented by inexperienced trainers. (OfSTED, 2004a, p23; TTA, 2002, p34).

The following two sections will expand the problems identified above while discussing the current skills and knowledge of those taking part in this research and finally considering their specific training requirements.

Current Skills and Knowledge

Teachers interviewed in my research possessed skills and knowledge that ranged from those who considered themselves to be definitely on a par with the pupils who they taught while at the other end of the spectrum there were those who judged their skills and knowledge to be inferior. As IWBs had been installed in all classrooms all teachers made some use of ICT even though this may have been limited to using the IWB as an electronic white board. It was noted that in all lesson observations made, except one, that the traditional dry wipe board, which had been relocated next to the IWB, was used in conjunction with the IWB whereas in the one exception the IWB was used creatively using many of the functions that the IWB had to offer. For example the lesson objectives were presented on the IWB with the hide and reveal feature and further into the lesson a PowerPoint presentation was used to enhance a discussion that took place.

Nadia and Jackie thought that their skills and knowledge were on a par with their pupils but qualified this by admitting that this was only the case with the younger and lower ability pupils; as Nadia alleged

"I think they (pupils) are more advanced in some areas than I am unless they are low ability."

Jackie did not regard the fact that her pupils were more knowledgeable than her as a weakness as she acknowledged that *"they help me and there's no shame in that."* She appreciated that she could not compete with the pupils who had grown up in a technological environment whereas

"for us it's like learning a foreign language and we have to struggle at times to learn it but we have learnt, together with practise."

The general feeling was that the teachers interviewed managed to use the skills and knowledge they had to *"hold their own,"* as Tom described it. Tom believed that it was not necessary to be superior in knowledge to modern day pupils as his point of view was that

"teaching is different nowadays. I don't think that the kids expect us to be as much an authority in the classroom as they used to a few years ago."

The views of Jackie and Jessica very much resembled those of Tom's in that they both implied that it was not discreditable to admit that their knowledge in ICT was less than the knowledge of those who they teach. The interview data validated this statement in that all three teachers stated that they would not hesitate to draw on their pupils' knowledge if necessary.

When asked about their competency to use their skills and knowledge in the classroom in order to enhance their teaching, and hence their pupils' learning, Nadia's was the only negative response. However, while Jackie, Jessica and Tom realised that although they all made good use of the IWB, this use was limited due to their restricted skills and knowledge and they realised that if they were able to increase their knowledge of ICT then this would lead to greater expertise in the use of the IWB.

What emerged from the interviews is that the teachers valued learning from others whether it was from pupils in the classroom, other teachers or the schools' technical support team. Tom recalled visits to colleagues' classrooms

"I go into other teachers' classrooms and sometimes see something really good and think I must have a go at that."

He noted, however, that it was not always possible to practise what he had seen in other classrooms because sometimes the IWB was not compatible with the one in his own classroom and in these instances he considered his learning to be hindered. An example of this is highlighted in the following interview response which is actually the continuation of Tom's response above:

"It happened the other day and then I discovered my IWB was an older version and therefore I couldn't do it."

With the lessons observed there was evidence of a wide ranging use of the IWB. The reason for this may be inferred from the teacher interviews that gave emphasis to the fact that teachers had received a varied training in ICT and were at various stages along the skills and knowledge spectrum. There was, however, a commonality in what they perceived as their own personal challenges in ICT and these related to the use of the IWB. This is understandable considering the fact that all classrooms had been equipped with IWBs since the school had been designated a Maths and Computing College. For example, it was clear from the data that Michael was the most knowledgeable in ICT. He acknowledged that he was confident and it was apparent that he saw himself apart from the rest of the department in terms of ICT when he stated that

"Sometimes when you are confident you live in your own little world."

However, like his colleagues, Michael admitted that he was not using enough ICT in his lessons and admitted that

"My personal challenge is getting the kids involved in using ICT as I know that that is something I don't do enough of."

Nadia referred to her use of ICT as *"boring and limited"* and this feeling was implicit in Jackie's response when she said:

"I would love to produce something that I could use on the IWB that was relevant to my lessons and that would really inspire the pupils to want to work, especially for the lower ability pupils. I would love to do something that really gripped them and made them want to learn."

Jackie, like Jessica, suggested that

"There is some brilliant stuff around but sometimes you just can't find the exact thing that you need and so it is at those times that I wish I was knowledgeable enough to produce my own."

She continued

"I need to be more familiar with the IWB. I would like to have a go at making my own resources on the IWB so that the stuff I use is relevant to that particular lesson."

Tom also referred to the production of resources for the IWB

"I think the challenges I face are related to writing programs for the IWB."

The emerging desire from all teachers interviewed was to produce a teaching aid that could be used in conjunction with the IWB. It would need to be relevant to the lesson content and, as described by Jackie, would also need to be

"a brilliant presentation for the pupils, you know, to grip their attention to make the lesson really exciting."

As the participant teachers were members of the English department, I spoke to some of their pupils and found a mixed response to the English lessons. Some found English interesting while others found difficulty in committing their ideas to paper. There was one pupil who referred to the lessons as *"boring"* but qualified this by admitting

"I love using ICT - I like the library lessons 'cos we use the computers when we go in there."

There was no real enthusiasm displayed for English but then neither was there any genuine dislike shown for the subject. It appeared, however, that the use of ICT added a dimension to the lesson that gained the pupils' interest and coupled with the teachers' desires to make more use of ICT in their lessons, it was apparent that the development of ICT within the department would be a valuable approach to stimulate teaching and learning.

Being a Maths and Computing College, the school in which the research took place benefited from an ICT technical department staffed by three experienced members of

staff. The school also had the benefit of being a Microsoft Academy and as such offered courses on Microsoft software such as Publisher, Word, PowerPoint and Excel. With its ICT status, equipment and expertise it was interesting to learn that the staff participating in the research project were looking beyond what the school was currently offering in terms of their development in ICT. For example, when questioning Jackie about the Microsoft Academy it was apparent in her replies that what it offered did not correspond with the needs of all staff. She explained

"It's not for me. You're taught behind a desk with a lot of chalk and talk, that may suit some people but I want to have a go at producing something particular. I think I can learn that from a manual, it's not that what I want. I'm not saying that the courses they run here are no good, what I am saying is that they do not cater for what I want, that's all."

The opinion that the Academy courses did not match the needs of all individuals was echoed by Nadia who made it clear that

"I don't feel as though I want to be involved in that as the thought of going on an ICT course is just ough! It would be like pulling teeth. The courses are technical rather than how I would use ICT in my teaching."

It was evident from interviewing staff that there were some who felt that the English department needed to set ICT as a departmental priority. To balance this opinion, Jackie explained that all staff were using ICT in the classroom as a result of the introduction of the IWB and its use had been encouraged on a school level. She continued:

"I think our department encourages ICT in the classroom but I don't think that there is a great deal of enthusiasm - we use it (IWB) because it is there, otherwise I don't think people would worry about pushing for IWBs."

Michael offered a suggestion for this:

"I don't think the department is confident in its (ICT) use. For example, the IWB is not used interactively because of a lack of confidence."

Sean, on the other hand, saw the problem as a lack of importance placed on ICT by the department rather than a lack of confidence.

Other comments made that related to the ethos of ICT within the English department were

"I don't think that ICT is really high profile within the department considering that we are a Maths and Computing College."

and

"ICT is never really mentioned unless it is a whole school thing and we have to do something with it."

Immaterial of the feelings expressed by staff towards the ethos of the department in relation to ICT, all staff inferred that the development of ICT as a departmental priority would make a significant impact on their own personal development. This was clearly expressed by Tom, who felt that

"if the department placed ICT higher up on the agenda then I think maybe we could all receive more training."

This sentiment was shared by Sean who believed that

"if there was a lot of importance placed on them (IWBs) we would all be encouraged to attend appropriate courses but we are just left to get on with it and learn by ourselves what we need to."

It had been established that the participants were looking for assistance in producing IWB resources in order to make their lessons more exciting and yet the style of

training offered by the school had not delivered exactly what the staff were seeking in order to satisfy their individual needs. It was evident from the data collected that:

- The IWBs were being used only because they were there.
- Staff were not encouraged to share their ideas or expertise.
- ICT was not high on the department's agenda.
- Staff were looking for support in their use of ICT in the classroom.
- Staff were in need of training that was appropriate to their requirements.
- Staff were in need of training that was appropriately delivered.

The following section explores the style of training, or CPD, that would fulfill the requirements of all participants.

Needs for Training

"Individual teachers' confidence, skills and motivation towards ICT develop in response to other contextual factors, including a supportive organizational culture. These 'internal' factors also play a critical role in the process of both developing and disseminating new practice."

(Hennessy et al., 2004, p6)

Hennessy et al. refer to the importance of a *"supportive organisational culture"* (Hennessy et al., 2004, p6) to facilitate a teachers' development in ICT. It has been evidenced through the data that the school taking part in my research does offer support through the provision of resources and CPD, but nevertheless there is a demand for training that:

- acknowledges the teachers' needs and
- supports their work in the classroom.

These findings were not surprising especially when considering the results of research conducted by researchers such as Conlon (2004) who report on the failure of NOF and its inability to provide CPD within the context of the teacher's own environment.

It is perceptible from my own research that the nature of CPD that the participant teachers looked for, needed to conform to a set of criterion. It is this criterion that I will now determine through analyzing the data collected through teacher interviews.

It was apparent that first and foremost training should take place within the school environment and more particularly within the department. Jackie's response was explicit, when she explained that

"I'm always asking for training within our department, not even sharing it with other departments. I'm not being selfish but there are things that are more suited to teaching English than maths so why waste time sitting in the hall altogether when you could be getting on with something that is subject specific."

A critical factor in providing a meaningful CPD programme that would serve the needs of teachers in this study is one that was tailored to their subject, in this case English. Another key element stipulated by interviewees was that the training programme was led by them rather than the programme being led by the leader. This sentiment was aptly described by Nadia, who stated

"I do not want the training to tell me what I want; I want me to say what I want"

Staff referred to CPD training that was offered out of school, to a group of teachers coming together from several institutions as a waste of time. Some even stated that they felt uncomfortable in these situations. This was particularly so for Tom, who described his experiences of such courses:

"I don't feel comfortable racing through a set amount of work because it's a complete waste of time. They (the trainers) may have got through the work but it's another story whether or not we have understood and how much we have taken in."

He maintained that CPD training should take account of the needs of its participants with objectives relating to these needs. It was realised, however, that to meet this criteria would be an almost impossible task as every course participant may have a different agenda. As Tom appreciated:

"When you think about it, how on earth can training in a large group hit all the needs of its participants?"

The notion of CPD programmes being tailored to meet the needs of the participants is, however, not an impractical suggestion. Baylor and Ritchie (2002), in their study that considered the factors that facilitate teacher skill, teacher morale, and perceived student learning in technology-using classrooms, suggested

"that the professional development programme serve the needs of teachers with relevant examples and instruction. Simply providing off-the-shelf workshops designed by external sources will not have as great an impact as when teachers are surveyed and workshops are tailored to their needs."

(Baylor et al., 2002, p403)

Even if CPD providers did survey prospective course participants in an attempt to develop a course with objectives appropriate to all the participants there is the possibility that the content would still not match every single individual need as such provision would require a one-to-one or one-to-few situation. A suggestion that emerged from the interview data was that the ideal form of ICT training would be on a one-to-one basis that progressed at the pace of the individual but it was recognized that this style of training would not only be costly but also time consuming. Jessica found that her preferred learning style was learning from colleagues, in which case her learning was directly related to her needs. She explained that

“once I have been shown I have a go and a play until I am confident.”

This style of learning is not dissimilar to Tom’s preferred style; he suggested that training should be on a one-to-one basis with *“time to have a go”* with

“objectives that are related to what I want and not what the whole of a group wants.”

Jackie’s proposal for the design of an effective CPD programme would be where staff *“are given time to learn from one another.”* Michael took this one step further and related his desired CPD training model to the use of ICT in the classroom as a tool for enhancing teaching and learning. As he was fairly secure in his technical knowledge of ICT he explained that

“It is the application and not the skills of ICT. I need to have my application for it. If you are going to teach me say how to use a spreadsheet then I would need it to be relevant eg for recording exam results, otherwise I would just switch off.”

It was implicit in the teachers’ responses that the form of CPD that was currently being offered in the area of ICT was not fulfilling all of their needs. What has emerged, however, is the model of CPD training that would perfectly fit their requirements. The criteria for this model are listed below in no particular order of importance.

Effective CPD training should:

- be offered on a one-to-one basis,
- be person specific,
- be subject specific,
- allow time to explore with support,
- be led by the individual,
- be led by the needs of the individual,
- allow colleagues to learn from one another,
- allow time to produce useful and relevant resources,
- allow time to work alone,
- allow individuals to learn at their own level,
- allow individuals to work at their own pace,
- allow the individual to feel comfortable and
- provide individual support.

Identified Needs Analysis

From the evidence collected for the second case study it was apparent that staff were in search of a style of training that would make provision for their own personal and individual needs in the area of ICT that would have the desired result of enhancing the teaching and learning that took place in their classrooms in addition to increasing pupil motivation. It was the intention, therefore, of this second case study to develop an effective strategy for providing professional development that would lead to the successful integration of ICT in teaching of the participating teachers.

In their study, Baylor and Ritchie (2002) stated that a teacher's willingness to integrate technology into the classroom was influenced by factors such as professional development, a supportive climate and the need for the change to be relevant. Furthermore, they suggest that it is important to offer "*opportunities for collegial sharing of technology ideas and uses.*" (Baylor and Ritchie, 2002, p8).

Cox et al. (1999) carried out a small scale research project to investigate the factors which have contributed to the effective use of ICT by teachers in their teaching.

"The factors which were found to be most important to these teachers in their teaching were: making the lessons more interesting, easier, more fun for them and their pupils, more diverse, more motivating for the pupils and more enjoyable."

(Cox et al., 1999, p1)

A more personal factor, Cox et al. (1999) add, is the ability to improve the presentation of materials. Further findings produced by the research suggested that the limited use of ICT to enhance teaching and learning may be attributed to the fact

"that until recently the majority of courses offered in the UK to train teachers in the uses of ICT have focused on the technical aspects of ICT with little training about the pedagogical practices required and how to incorporate ICT in the curriculum. In many ICT professional development courses, teachers are not often taught how to revise their pedagogical practices, how to replace other traditional lessons without depleting the curriculum coverage and so on. This means that after teachers had attended a course they still did not know how to use ICT for teaching pupils, they only knew how to run certain software packages and to fix the printer."

(Cox et al., 1999, p2)

As with my own research, Cox et al. (1999) support the notion that although teachers may have some knowledge of certain software packages, it is the pedagogical practices that need to be developed in teachers.

Interestingly, one of the findings in the research carried out by Baylor and Ritchie (2002) was that *"teacher non-school use of technology negatively affected the impact on content acquisition."* (Baylor and Ritchie, 2002, p16). Their interpretation of this finding was that

“perhaps the more the teacher used technology out of the classroom, the more s/he was a more advanced user and may have focused on the technology itself rather than the application of the technology in the classroom.”

(Baylor and Ritchie, 2002, p16)

Taking into consideration the findings of Cox et al. (1999) and my own research I needed to produce training that would satisfy the criteria for an effective CPD programme, as listed above. The training would enable staff

“to understand how to incorporate the use of ICT into their lessons; they may need to develop new pedagogies to achieve this.”

(Cox et al., 1999, p4)

To take the process one step backwards, before using ICT in their lessons the participants were mentored, using their current knowledge and possibly new knowledge in ICT, in order to produce a teaching aid that was relevant to their teaching. As this case study did not focus on gaining new knowledge in ICT, new knowledge was taught only if it was relevant to the production of the teaching aid.

Through their literature review, Cox et al. (1999) indicated that

“Studies show that the most effective uses of ICT are those in which the teacher and the software can challenge pupils’ understanding and thinking through whole class discussions using an interactive white board.”

(Cox et al., 1999, p4)

This was an interesting observation in that it related directly to my own research considering the fact that all classrooms had recently been installed with IWBs. Cox et al. (1999) continued by stating that a positive effect of the whole-class use of an IWB is that

"It promotes pupils' debates and helps them visualize difficult concepts and processes."

(Cox et al., 1999, p4)

I feel that it is important to remind the reader that recent studies draw attention to the element of disillusionment amongst teachers in the provision of training in ICT over the past years. I came to this conclusion as a result of reflecting upon the references made to Cox et al. (1999) above and observing that the findings of their research undertaken seven years ago were duplicated by the findings of my own research undertaken in 2006. I do understand however, that in order to validate my view it would be necessary to carry out a further, wider ranging study in order to demonstrate to what extent this is a true representation of training nationwide. If it was the case that my findings are representative then it can be appreciated that training in ICT has not progressed significantly over the last seven years particularly in its application to teaching. It is therefore appropriate to consider other forms of training taking into account the findings of both the research carried out by Cox et al. (1999) and myself in 2006. As the concept of mentoring complied with the criteria identified in a) the literature review and b) the second case study data analysis, then it may be reasonably argued that mentoring would be an important aspect of training and used as a tool to support the previous styles of training received by the participants taking part in this research.

In response to the discussion above, mentoring was the approach chosen to supplement the school's CPD programme in ICT as it appeared to provide a solution for the apparent unsatisfactory provision in previous ICT training as experienced by the participants of this research. In addition, it provided continuity between the two case studies as it was used a) as a form of CPD in both case studies and b) to develop the pedagogy of using ICT in the classroom.

The Mentoring Activity

The mentoring activity that was planned was organized into two distinct components; the first was concerned with producing a teaching resource while the second was concerned with using it. The style of mentoring adopted for the second case study emerged from the analysis of data above and is summarised as a reminder below:

- provide one-to-one mentoring,
- be an informal process,
- offer a supportive, trusting relationship that is ongoing, nurturing and caring and one that encourages, counsels and befriends,
- be a helping process,
- be a reflective process,
- offer role modelling,
- provide challenge and support,
- provide awareness giving, observation and comparison and
- provide informal assessment

Mentoring – Producing the Teaching Resource

The criterion for producing the resource was that:

- it had to be easily produced,
- where possible, it used the ICT skills and knowledge already possessed by the participants,
- it was easy to use as a teaching tool,
- it encouraged lively discussion between the pupils,
- it encouraged thoughtful writing from the pupils,
- it encouraged a notable improvement in the pupils desire to learn and that
- it improved the teaching and learning of the English lesson.

After a discussion between the participants and me, acting as mentor, it was decided that a resource to encourage suspense writing would satisfy the individual needs of all involved. It was also stipulated that the resource that was produced had to be used in conjunction with the IWB.

The resource was produced using one-to-one mentoring with me, as mentor, working with each individual participant (mentee). I decided to mentor each mentee individually for two reasons:

1. it would have been more difficult to arrange a time convenient to all participants and
2. each participant had their own individual ICT needs

The ICT skills of scanning, producing a PowerPoint presentation, searching the internet, downloading sound files, matching sound files to PowerPoint slides and saving the completed resource to a CD were used. Although some participants were already in possession of the necessary skills and knowledge required to produce the resource, new skills were gained by others. The same final product was produced by each participant and was in the form of a CD that contained a PowerPoint presentation of the story 'The Water Tower' by Gary Crew and Steven Woolman. Each slide was enhanced by adding atmospheric incidental music that was downloaded from the internet. The next stage of the mentoring activity was the use of the CD in the teaching of suspense story writing. It was at this stage that the mentoring became more individualized in that each teacher brought their own teaching skills and experiences to the activity.

Mentoring - Using the Teaching Resource

Each of the six teachers were mentored on a one-to-one basis and by doing so a request for such a mentoring strategy, as highlighted in the teacher interviews, was fulfilled. However, each individual programme followed the same structure, as detailed below:

- initial discussion of how the resource was to be used in the classroom (sharing practice),
- mind mapping ideas (sharing practice),
- producing a lesson plan (sharing practice),
- teaching the lesson (collaborative teaching)
- assessment of developing practice (co-analysis of practice)
- pedagogical content knowledge (co-analysis of practice)
- follow up (co-analysis of practice)

The mentoring experience was extended over three lessons with the opening session of the initial lesson being introduced by the teacher, my role throughout the lessons being that of a participant observer. This was a mutual decision between the teachers and me because of their expertise in teaching English although the lessons did proceed with an element of incidental, unplanned co-teaching. A timetable for co-analysis of practice was established during the 'initial discussion' stage (bullet point one above) and it was decided that this should take place as soon after the lesson as was physically possible; in some instances this was immediately after the lesson. During these sessions we discussed how well we thought the lesson had progressed and how this was to be developed during the following lesson.

Sharing practice sessions remained professional but informal and took place within the teacher's own classroom in an attempt to create an informal, comfortable atmosphere that was familiar to the teacher. Although the initial discussion of these meetings tended to be instigated by myself as mentor it was noted that it was the teacher who very quickly dominated the sessions. This was expected as they were the experts in the teaching of English and it was evident that they had their own agenda of how they wanted to use the teaching resource. As Michael's responsibility within the English department was drama, his idea of using the resource was to inspire a piece of writing for a drama session; Nadia wanted to use the resource to build on previous work she had done with the class and that was to encourage pupils to look at the different interpretations that stories may have; Jessica's suggestion was to encourage the pupils to produce a piece of suspense writing. It was pleasing to see that these sessions were fulfilling the criteria, as set out by the teachers themselves, which

contributed towards an effective programme of CPD training. In particular, these sessions enabled training to be:

- on a one-to-one basis,
- person and subject specific,
- allowed time to explore with support,
- led by the individual
- led by the individual's particular needs.

As with sharing practice, collaborative teaching sessions were very individual in terms of the requirements of each teacher. Michael, for instance, had a wide experience and knowledge of ICT and following the 'sharing practice' sessions was quite happy to use his own teaching skills in putting what we had discussed into practice and therefore my role in the lesson was to be an additional adult presence in the classroom providing help and support to the pupils. Nadia, on the other hand, was more in need of help in setting up the lesson by way of using the 'hide and reveal' feature of the IWB to introduce the lesson objectives. As the lesson commenced her expertise in teaching English was evident and my role changed to become more of an assistant with improvised two way conversations between us that caught the pupils' interest and motivated them to become involved.

Following each lesson the teacher and I analysed how we thought the lesson had progressed focussing on:

- a) the teacher's confidence in using the teaching resource and
- b) the pupils' response to the lesson.

During these sessions we discussed how we would build on the previous lesson by developing the use of the resource other than using it as a slide show. For example, Jessica, who was looking at the use of adjectives in narrative writing, decided to have a slide showing on the IWB as the pupils entered the classroom in order to focus their attention and gain their enthusiasm from the start even before the lesson had commenced. Tom, on the other hand, was looking at how music created the feeling of suspense and decided for lesson two to have the PowerPoint slide show of The Water

Tower running as the pupils entered the classroom, the difference being that the background music to each of the slides had changed in a bid to create a different feeling to the story. It was evident from the content of these sessions that they focussed on the particular needs of the individual teacher and by doing so fulfilled one of the criteria for CPD as requested by the participants and that is that training should be person specific.

The style of mentoring that took place highlighted the findings in the literature review on mentoring which suggested that mentoring can have different meanings for different people and different situations and therefore it is almost impossible to give a definitive meaning for the term. To give an example, when describing a mentoring situation between an experienced teacher acting as mentor and a student acting as the mentee, the term 'sharing practice' would mean that the mentor would need to:

"be open about their own strengths and weaknesses, be prepared to explore in detail the thinking between their own actions in the classroom and move the student from simple to more complex analysis of teaching and learning."

(The Open University, 1995a, p11)

In the current research the mentoring situation presented a setting where the mentor and mentee were equal in terms of experience as a teacher and in fact where the mentee was more experienced in terms of teaching English. The role of the mentor here was to provide the teacher with an opportunity to consider and discuss how to improve teaching and learning through the use of ICT while drawing on their own craft knowledge and skill as a teacher and therefore the situation was more a circumstance of colleagues working together rather than the mentor acting as the authority.

Nadia's initial response to the mentoring project was positive but when it came to actually applying new ideas or moving away from restrictively familiar methods of using ICT she was less enthusiastic and produced reasons, that I considered to be excuses, for not being able to work on producing the IWB resource. She was also resistant to any kind of input from me and a lot of ineffectual arguments were

produced in order to postpone the start of the project. This was a major challenge that had to be overcome. My own perseverance and patience in continuing the mentoring relationship when faced with Nadia's general anxiety regarding advancing her ICT skills and her fear of moving out of her 'comfort' zone' eventually showed some success as she was extremely satisfied with the results of the lessons which were the culmination of my mentoring. She admitted

"I enjoyed teaching using the materials we produced, I found it exciting."

A certain amount of sensitive assertiveness was applied to the mentoring sessions I had with Nadia and at times there was a resistance that was overcome by constant encouragement.

Tom didn't need his confidence boosted in the same way that Nadia did. He was extremely able and enthusiastic and actively enjoyed incorporating ICT into his lessons. Though we had worked together, initially Tom's confidence, ironically, proved to be a challenge to me as a mentor. The problem I encountered was that of knowing how to challenge him because firstly, he didn't need to acquire the same basic ICT skills as Nadia had done. Secondly, his teaching using the resource also exceeded my expectations. The solution to this challenge came when I realised that my role was not one of instilling confidence, or one of overcoming barriers to progress, but one of sharing ideas. Through discussing Tom's teaching objectives for the half term we arrived at the idea of creating a Speaking and Listening exercise where the pupils evaluated the effectiveness of The Water Tower text when different styles of music were applied to key parts (for example, waltz music to accompany a PowerPoint slide where 'tense' music would have been more apt). The pupils' task was to use the internet to find and download different genres of sound tracks and use these to investigate how the music changed the mood of different key images in the text. When asked if the experience had resulted in a significant change in his teaching and learning, Tom was positive in his response, replying:

"that goes without saying, that's a definite yes. I've been introduced to another way of presenting the teaching of suspense story writing in an exciting and imaginative way and it won't stay there - I will try to incorporate what I have learnt into other areas of the English curriculum because not only did I enjoy it but so did the kids we all got so much out of it it was a really effective teaching strategy, thanks for the idea."

Jackie was continually reluctant to start the mentoring project. She did not enjoy using ICT, and was often difficult and obstinate about acquiring new skills - even to the extent of continually arguing against the benefits of having an IWB installed in her classroom when the department had won funding for them a year previously. She said that initially she had been cajoled into starting the project with me, and believed it to be *"a waste of time."*

Whereas with Nadia, constant affirmation of her ability and reassurance eventually encouraged her and helped to foster a positive mentoring relationship, Jackie's reluctance stemmed from a definite, conscious refusal to update her skills, and she regularly cancelled prearranged meetings and openly refused to prioritise the project during the working day.

This problem was overcome by using short bursts of time with her, initially of fifteen to twenty minutes, after the school day during Directed Time. During these periods, I showed her the work that Nadia and Tom had produced, and also asked Nadia to discuss the impact of The Water Tower on her classes' learning. When she could no longer deny the benefits of the mentoring project in developing her own ICT skills, and grew increasingly aware that her colleagues were gaining knowledge that she was 'missing out' on, we were able to move ahead with the mentoring and eventually Jackie utilised the skills she acquired to great success with The Water Tower. Her comments following the mentoring project stand as a testament to the power of this form of training, particularly when considering that Jackie had actively avoided all school-sanctioned ICT skills training previous to the mentoring project. She informed me

"I've gained so much more than I thought I would have done or even could have done from a single course. Not only have I improved my computer skills and knowledge I can actually use them to produce useful and effective teaching aids which in turn have improved my teaching and use of the IWB and I'm really happy about that."

It became increasingly evident that I had to draw upon different mentoring skills to match the individual needs for each of the participants. It was also true to say that although the concept of mentoring was the same for each mentoring situation, different emphases were placed on the individual criteria of mentoring as developed from the analysis of data. This was particularly identifiable in the case of Nadia and Michael. My mentoring role with Nadia was more of one that was supportive and one that offered an ongoing, nurturing, caring and trusting relationship. It was also clear that Nadia was in need of great amounts of encouragement and this at times made the process quite demanding for me as mentor. With Michael, although my role offered all of the areas of mentoring as was offered Jackie, I found that the emphasis was placed more on the role as being one that offered help in addition to one that influenced Michael to be reflective in his practise. The process furthermore provided situations that encouraged role modelling, provided awareness giving, observation and comparison. With Jackie, being someone who was consistently resistant to the mentoring process, I had to assert, in a subtle way, that the process would be beneficial for her own professional development. I also needed to drive the actual sessions forward by repeatedly making the agenda of each meeting clear and insisting that we worked on the mentoring activity.

Michael as a mentee was a pleasure to work with. He was totally focused on the project, mostly because he was already confident and able in his own ICT skills. His need was for practical ideas in which he could apply his skills and knowledge in ICT in his teaching. The Water Tower proved to be the perfect vehicle for the mentoring project, as after we made the IWB resource together, we focused on developing a medium-term plan which he could share with other teachers involved in the project. Michael went on to incorporate The Water Tower very effectively in lessons and confirmed that there had been a definite change in his teaching pedagogy as a result of

the mentoring exercise. His acknowledgement of this change is clear in the following statement:

"I've definitely changed, or added to, my teaching and it was so simple - I mean the idea was easy to do - my ICT skills were not stretched at all but then I didn't expect they would be. It was the teaching aspect I was looking for."

Jessica's ICT skills were scant. There were great gaps in her basic knowledge, mostly because, as she admitted, she *"had a poor retentive memory."* Previous training had not been useful, as she had difficulty recalling the processes involved when she came to prepare resources. Therefore, 'hands-on' mentoring was ideal for Jessica, as she was able to repeat certain steps with me present until she felt sure of them. Jessica was enthusiastic about the mentoring process and believed that she benefited greatly from it. She considered that the *"the whole experience had been excellent"* and that she had

"benefited both on a personal and professional level - I have improved my ICT skills which in turn has lead to an improvement in my teaching."

Sean, as a newly qualified teacher, was confident in his skills, and initially believed that he would gain little from the mentoring relationship. However, he did concede that his ICT training at university hadn't been very effective because he did not like the critical, negative nature of the feedback he received.

Sean responded well to the equality of the mentoring relationship. He was put at ease by the fact that he wasn't being assessed or judged in any way, that I as a mentor was there to support him and there was no criticism or pressure to perform. He also appreciated the fact that he was able to set the agenda of the training, in the context of his particular needs. Sean described the mentoring relationship as a

"situation where there was no hierarchy and no pressure to impress in order to jump a hurdle or pass a teaching experience. This was relaxed with no pressure."

Sean's ICT skills were good and this meant that the mentoring for producing the IWB resource took place over a shorter period of time in comparison to the time spent with the other participants because the help he needed was very specific. He wanted to learn how to put music to The Water Tower PowerPoint. He learned how to do this quickly and effectively during our mentoring sessions. We went on to discuss teaching ideas revolving round The Water Tower. He felt confident enough to plan independently, but often checked his ideas and plans with me. He believed that there had been no significant change in his teaching but did admit that

"it's made me think outside the box as it were, it's added a dimension to my teaching."

Findings of Second Case Study (post-mentoring)

Teachers' Perceptions of Mentoring

The initial feedback to the mentoring activity was positive, evidenced by the responses given to the introduction of the staff interviews, responses such as

"I have really enjoyed the experience," "learnt loads," "feel full of inspiration" and "I believe we have gained such a lot through this project."

Nadia, in particular, had initially been sceptical about the concept of mentoring and its ability to develop her professionally. She explained that she had approached the experience with some apprehension as her pre-conception of mentoring was developed during her training at university. Her expectation was to be

"supervised like at uni when your tutor comes in and you get all nervous and can't do a thing."

However, the fear of the new IWB in her classroom by far outweighed her misconceptions of mentoring and she admitted that

"I just freeze at computer technology - and when we were told that they (IWBs) had to be used and that we would be observed teaching using them, panic set in. I didn't think I would ever be able to use one. . . . suddenly I had to become board literate in addition to becoming computer literate and then you came along - I couldn't believe my luck when you asked me if I wanted to take part in some mentoring."

In contrast to Nadia, Michael's need was not technical but pedagogical. When asked if he had learnt anything from the mentoring exercise he believed he hadn't in terms of computer skills

"but in terms of application I would say yes - I knew how to produce the materials, it was just the idea I needed."

Michael's previous experience of CPD could be described as formal in that it was imposed from above with his needs decided for him and, unlike this experience, had never been on a one-to-one basis. As he considered this to be his first mentoring experience, he found *"the whole exercise to be really beneficial."* He appreciated the importance of sharing knowledge and described the every day relationship that existed between Nadia and himself as one where she shared her skills of teaching in exchange for his skills in computing. This recognition of each teacher being an individual with individual needs is distinguishable in the interview with Michael where he acknowledged that

"We both got different things out of it which was good because it made it individual - we got what we wanted out of it."

This enthusiasm for mentoring was reiterated by Jackie. She described it as being *"a fantastic experience"* even though, like Nadia, she *"didn't think it would be"* as her notion of mentoring was associated with the learning mentors employed in school to assist pupils with their problems. There was an admission that she didn't *"really know that much about it"* and she further confessed that *"we don't associate it with our own training and learning."* She continued

"it's been nothing like any kind of training I've ever done before. I feel so pleased with myself and have used the skills I have gained to produce similar materials for the IWB and that is exactly what I wanted to get out of this. I'd never used a scanner before and yet it is so easy to use - I love it. I think it's magical when you fit the sound effects to the Power Point presentation. I've learnt such a lot, it's just brilliant."

It was noticeable that the analysis of data supported the literature review in that the concept of mentoring means different things to different people. There was a certain degree of apprehension towards mentoring prior to the exercise but this could have been as a result of the varying experiences of the participant teachers, experiences that formed their notions of the term 'mentoring'. For both Michael and Tom, as far as they could recall, this was their first experience of mentoring with Michael considering it *"to be just something else that was going to take up my time"* although his post mentoring impression was one of enjoyment and one where he had *"learnt a fair amount from it."*

With the exception of Nadia and Jackie, the staff appeared to be reluctant to participate in the mentoring activity, an attitude that needed to be appreciated as:

- the summer term was busy and this was perceived as another obstacle to overcome,
- 'mentoring' was a term that the staff did not fully understand and therefore staff were unsure as to what they were actually becoming involved in,
- often training was deemed to be acceptable if it was arranged to take place during school time but less acceptable if it involved teachers taking their own time to attend meetings after school and
- training had not always been meaningful or directly related to the needs of its participants.

Skills/Knowledge Gained from Mentoring

From a participant's perspective, one of the reasons for them taking part in this research project was the hope that they would gain something from it either in terms of developing their own skills and knowledge of ICT and/or in the use of ICT in their own teaching. For some participants there was a gain in both of these areas while for others there was a gain in one area only. The one-to-one style of mentoring adopted for the project meant that it was possible for teachers to develop in their own particular areas and this made the CPD individual to each participant. For those who were already confident in their knowledge of ICT and in possession of well practised skills, their development was solely in the area of teaching and learning.

The mentoring experience proved to be a positive one for all participants. Even those who thought that they would learn very little, were surprised at the benefits of using mentoring as an integral part of a CPD programme. Sean, for example, thought that following his recently completed PGCE course there would be very little that he would gain from participating in the research project. He endorsed this idea by explaining that he was a newly qualified teacher and although he realised that he was a beginning teacher and there was still a great deal to learn and develop, he had been well prepared for teaching as he considered his PGCE course to be excellent. However, Sean admitted that

"I found the whole experience to be of great benefit to me, my teaching and the pupils."

Although Sean had not significantly developed his ICT skills, he believed that his gains were in the creative use of the skills that he already possessed and the subsequent use of this culmination of skills to enhance the teaching and learning that took place in his classroom. He communicated this judgment by explaining

"I have been made aware of what I can do with what I know if that makes sense. What I am trying to say is that I already knew how to use PowerPoint and how to copy a disk and I knew how to put the sound effects to the PowerPoint presentation and I would never

have thought of using it in the way we did - I think my way of teaching suspense story writing would have proved to have been pretty flat in comparison."

Like Sean, Michael's computer skills were advanced when comparing them to other participants but being new to the teaching profession he was looking for new ideas that he could use in the classroom. He admitted

"I didn't think I would have got as much out of it as I did and I agreed to take part because it was for you but I enjoyed it and learnt a fair amount from it."

It is worth noting that there were different perceptions of the term 'mentoring' held by the participants. Sean compared it to the mentoring he received at university where the mentors

"came to watch you teach and then criticised it afterwards. They were supposed to be there to help you but that's all they did was produce panic and anxiety because you just knew they were going to find something that you hadn't done or areas for improvement."

Sean accepted this style of mentoring as he realised that this was the style that was appropriate for students on a teaching experience and made reference to the relationship between mentor and mentee as being on "a two-tier level." Through his interview Sean made the distinction between his previous experience of mentoring that involved formal assessment and a tutor/student relationship to his recent experience where the assessment was informal and the relationship between mentor and mentee was as equals. He described his recent experience as being

"quite different but then the whole situation was different. I was there because I agreed to be there and knew that I could pull out when ever I wanted to. Not only that, I was in control and the context of the learning was my context; I determined what I wanted to learn and so the situation took place on my terms which wasn't the case when I was a student."

As a consequence of participating in the mentoring exercise, Tom reported that he had “*resurrected*” some of his skills in ICT that had become “*a bit rusty*” which have now “*been oiled to a certain extent.*” In addition, he said

“I have been encouraged to look at teaching in a different way and a more exciting way by using the teaching resource that I have actually made.”

Jackie described the exercise as “*hitting all the right buttons*” for her and admitted

“I’ve learnt loads and all exactly what I was looking for.”

Like Jackie, both Nadia and Jessica had definitely gained from the mentoring experience. Nadia referred to her experience as “*exciting*” and could not believe how much she had learnt from it. She said “*for once I feel confident*” having learnt numerous new ICT skills even though she realised that these new skills would need practise before they became embedded into her repertoire. It was evident that she had already put these skills into practise as she explained

“I spend hours preparing for lessons ‘cos I’m playing on the computer. The only thing is that I take so much time planning for this that I cut down on the time planning for the other lessons and compared to this the others appear boring but once I have copied it all to disk I have it then for the next time so that’s good and eventually that will save time.”

This for Nadia was a major leap forward in her knowledge of ICT and her confidence in utilizing her ICT skills within her teaching. Previously she exhibited anxiety towards the newly installed IWB and felt that she did not possess the necessary ICT skills and knowledge in order to put this new technology into use. She also expressed unfavourable memories of her previous training in ICT and was critical of the general structure of CPD.

The encouraging remarks articulated by Nadia were endorsed by Jessica who commented

"I've learnt more than I thought I would have; I've learnt how to do things on the computer, things I didn't even know you could do."

She, like Nadia, was of the opinion that in order for the newly acquired skills to become embedded it would be necessary to practise them and testified

"it's exactly what I was looking for but was a bit pessimistic to think I was going to satisfy my needs through this exercise."

When questioning Jessica about what she was hoping to gain from the experience, she said

"I wanted to be able to create my own teaching resources for the IWB - I felt under pressure to become proficient very quickly."

She continued

"I felt that I couldn't just use it [the IWB] as a blackboard, I needed to explore its use to make my teaching exciting and to improve the students' learning and I think I have, actually I know that I have achieved both of those."

The evidence cited above is a testament to the reality that for these participants the style of mentoring adopted for this case study enhanced and improved their skills and knowledge in either, or both, the area of ICT or teaching pedagogy, and therefore satisfying their criteria and requirements for a successful CPD. Unlike other experiences of CPD, Nadia believed this experience to be "good." She qualified this by explaining

"I am gaining skills for a purpose - I am using them - I am learning skills for one purpose and one purpose only and that's to use them."

Development/Improvement in Teaching and Learning

The impact that the mentoring project has had on teaching and learning was considered predominantly through the analysis of post-mentoring teacher interviews with evidence supported by participant classroom observation, work accomplished by the pupils taking part and their comments following completion of the exercise.

All participants, with the exception of Sean, reported a significant change in their teaching and the pupils' learning. Sean believed that although there hadn't been a significant change to his teaching, it had certainly been enhanced due to the fact that he had been introduced to using his ICT skills to teach suspense story writing. He explained that

"I wouldn't have thought of scanning a book onto PowerPoint and adding eerie music as a means for teaching suspense stories so in that way my teaching has been enhanced but I wouldn't say that that amounted to a significant change."

It is true to say that although Michael's ICT skills had not been added to, like Sean he had been encouraged to utilize them in order to add an extra dimension to his teaching of suspense story writing. He explained that the production of the IWB resource was well within his ICT capabilities and therefore what he wanted to achieve from the mentoring exercise was to be given some guidance as to how he could employ his skills and knowledge in ICT in order for them to have a positive effect on his teaching.

For some, the excitement of their newly gained skills was so much that they were actually looking forward to the next round of formal lesson observations. This was the case with Jackie who reflected

"When we were told that we were having IWBs I suppose I was a little anxious because we would be expected to use them and not having used one before, not even having seen one only heard about them, I didn't know how I would cope. I have even learnt more about how to use the IWB; I learnt lots of tips and found my way

around the software all from this exercise. Can't wait to have my next lesson observation; I'm going to knock them dead with it."

Even though the experiences of all participants reported so far have been positive, illustrating the fact that teachers' learning had taken place, it does not necessarily follow that these experiences would impact upon the pupils' learning. However, what follows is evidence to confirm that there was a transformation in the teachers' teaching and the pupils' learning.

My own observations of the classroom atmosphere pre- and post-mentoring are testament to the fact that there had been an observational change not only in the teachers' teaching but also in the enthusiasm of the pupils' desire to learn. This change was borne out in the pupils' interviews upon completion of the exercise. When asked if they enjoyed the lessons, the pupils offered the following responses:

"Thought it was really exciting;

It was brilliant how the pictures were shown with music that made a really threatening atmosphere;

We studied films already so I could look at an image and what it meant;

The music created the atmosphere for the pictures;

Our teacher was really enthusiastic about the ideas we were coming up with;

Yeh, she said that they were brilliant and our answers showed how clever we were;

The lessons were more exciting than normal."

Nadia reported how impressed she was with the pupils' enthusiasm to learn. The account of her observations follows:

“they [the pupils] came into the classroom asking if we could carry on with it; they were so motivated and the work they produced was brilliant. My enthusiasm and confidence obviously passed onto them. We all loved the experience, even the ones who would normally try to distract others and cause a problem in the class.”

During one lesson I decided to sit with a group of pupils who were notorious for their unacceptable behaviour. They informed me that they had modified their behaviour because their teacher was *“in a better mood.”*

“Yeh,” added another, *“but that was ‘cos we weren’t messing about. We only mess about when we are bored or if we don’t like the teacher.”*

I questioned Nadia further about the disruptive pupils in the lesson. She revealed that

“usually I have to spend so much time physically sitting next to them just to get the minimum out of them and as soon as I move away they are off track but with the IWB and the disk it was a different story. You know, I even found myself looking forward to the lesson with them and I’m sure they felt that they had achieved; they were so pleased with what they had produced.”

The pupils’ written work demonstrated the learning that had taken place particularly amongst the disruptive members of the class; one year 7 pupil wrote as a description of the water tower:

“The water tower stretches above me. Its long, almost draping ladder drawing me towards it as if it’s calling my name saying ‘Climb me, climb me.’”

The author of this piece of writing proudly read it to me and admitted

“I know I can do it. I never got it before but now I am as good as anyone else. My teacher told me that I was clever because I thought

of points that no one else in the class did. I think I will be better at writing now because I have seen how you can write a gripping story."

It was evident from interviewing the pupils that the teachers' use of the IWB and The Water Tower teaching resource produced during an earlier mentoring session, added to the success of the lessons. The pupils believed that the use of ICT had made the lessons more interesting and by using the IWB

"we were able to see clearly and the teacher could point things out to us. It wouldn't have been the same with a book 'cos you couldn't have had the music. The images were really big and it made it even more weird and spooky."

Furthermore, another pupil added

"I couldn't wait for my next English lesson because everyone had listened to every one else's ideas and helped each other to see what the other person was seeing and then adding onto it as well."

Without doubt, ICT was generally perceived to have a positive impact on learning and was enjoyed by both the teachers and pupils alike. Jackie believed that The Water Tower teaching resource *"caught the kids' attention and definitely their imagination,"* because, according to Nadia, they were given *"the freedom to interpret the images and text."*

An obvious success of employing mentoring to enhance the CPD of teachers in ICT is evident in the improvement of pupils' behaviour, enthusiasm and standard of work. This is particularly evident in the response given by Nadia, who reported:

"my enthusiasm and confidence obviously passed onto them we all loved the experience - even the ones that would normally try to distract others and cause a problem in the class - you know the characters I am talking about - even those remained on task and

completed their work and what they produced was really good for them."

Nadia had used the Water Tower, the teaching resource produced during the second case study, to inspire her pupils to produce a piece of suspense narrative writing. Together, Nadia and her class produced a writing framework that they based on the Water Tower and then used it to structure their own writing. The extracts included as Appendix 7 are examples of the work produced by Nadia's year 7 pupils who, she informed me, performed at a higher level than expected. The following extracts taken from the pupils' work, was judged by Nadia to show *"quite an improvement in their writing skills."*

Nobody in Rustion knew why Rustion graveyard had an electric fence. But it stood, stuck in the mud - its rusted bars two hundred years old looking down on Rustion itself.

and

"Femi?" Sade whispered. "Femi?" Still no answer; so Sade hummed to herself and stopped to hear her voice echo again and again - still, it didn't calm her, she stepped more into the lighthouse' presence to get used to its strange feeling.

It is interesting to note that the research of Condie et al. (2007) reported an improvement in the writing skills of low achieving pupils in classrooms where teachers of English made use of an IWB in their teaching. Furthermore, in support of my findings, they found

"that teachers' questioning strategies changed, such changes being consistent with the kinds of interaction associated with more effective teaching."

(Condie et al., 2007, p40)

When discussing the change in teaching and learning following CPD, Sparks and Loucks-Horsley (1989) state that as teachers

"apply new strategies, they can see changes both in their own and their students' behaviour. In some instances, measurable improvements in student learning will also be observed."

(Sparks and Loucks-Horsley, 1989, p43)

Although lengthy, I feel it is important that I include the following reflection made by Nadia as I feel that she has benefited most from the mentoring exercise but more importantly I believe that it accurately creates a true interpretation of the results of the exercise.

"Pupils were already familiar with inferring meaning from images and interpreting meaning from the connotations of both image and text. However, the skills of analysis they became familiar with in the earlier Media Unit, and could apply at a perfunctory level, were used to a far more sophisticated degree in this exercise. Pupils were able to apply previously taught skills of inference and deduction to an impressive level with virtually no teacher input. The complexity and originality of insights and deductions made by the pupils far exceeded any they had previously made in class. The exercise allowed pupils to apply their skills in a way that did not place boundaries on their skills and understanding."

"They accessed the text to a level I have never seen this class do before. It was great to use a text with so many possibilities for reading, writing and speaking and listening exercises. The relationship between me and the class was very cohesive, with virtually no disruption. The activity engaged the whole group and there was an exciting learning environment in the classroom. Pupils were eager and 'fired' by the project."

"The text allowed pupils to access it to their own ability but it excited them enough to engage them fully and get the deepest meaning from it as they could."

Mentoring and CPD

Comments made by teacher participants in the post mentoring interviews of the second case study highlighted the fact that they were unhappy with previous CPD training. Following completion of the mentoring exercise, interview responses showed that there had been a change of attitude amongst the participant teachers towards CPD. What follows is evidence that this change is due to the inclusion of mentoring in the CPD programme.

From the responses recorded following the post-mentoring teacher interviews, it is clear that all participants found the mentoring exercise to be invaluable. It was found to be *“more useful than the traditional forms of mentoring”* which Nadia found to be threatening as, she explains

“with other forms of training, you know when you sit in a room full of people, you always feel they know more than you, the trainers aren't there as friends they are in authority as well as an authority - their presence is threatening.”

A positive relationship was considered to be an important feature of a CPD programme with Nadia believing that without it, training would be less successful. Participants favoured the *“friendliness”* of the experience believing that, in Nadia's words,

“it's good having a mentor in school cos you know that there is always somebody that you can go to without being embarrassed to ask for help or say you don't understand - it's friendly - of course you would have to have a good relationship with that person I don't think it would work if you don't get on I suppose that that is an important aspect of it all.”

The supportive, trusting relationship reported above did not only exist between mentor and mentee but between all members of the English department. It was advantageous that the mentoring exercise incorporated all members of the department as participants were able to share their experiences and this, in Michael's words

"brought people together - we found ourselves discussing it outside the actual exercise - we even talked about it at the departmental meeting."

This piece of research does not set out to claim that traditional forms of CPD are ineffective but hopefully suggests that mentoring can be used as a tool to enhance CPD training. Although participants had implied that their previous training in ICT had not been as effective as they had hoped, there was also the suggestion that this was, to some extent, due to the fact that time was not allocated in school to put into practise what was learnt. Nadia voiced this opinion when talking about her previous experiences of CPD by explaining that

"there's so much that we have to take in at meetings and courses and although it sounds good at the time you get back into the classroom and you just don't have time to implement it and then after a few weeks you may as well not have been on the course."

Implicit in Nadia's comments is that the advantage of including mentoring as part of a CPD programme is that participants are, as Tom suggested, *"actively involved."* He continued:

"I found that this way of training was so much more personal and what I got out of it was what I needed."

Jackie's comments supported those of Nadia, as she also suggested that time was an important factor when attempting to implement course content. She believed that

"the day to day planning, preparation, marking and umpteen other things that we are expected to do just take over."

The case being made here does not imply that mentoring is not time consuming or that CPD without an element of mentoring is not relevant, rather it implies that the inclusion of mentoring not only makes the training relevant but personal to the individual mentee with, in this case, the mentee *"setting the agenda."* Tom found that

“there was no pressure to learn although there was a need to learn from my part and therefore I did - it was personal to me and not the school or LEA or government and that is unusual for training.”

On the matter of time, Tom admitted

“I spent hours afterwards in my own time practising and producing materials because I wanted to.”

The mentoring process was also reported to be time consuming by Jackie because in addition to the time spent on the implementation of the mentoring exercise and its associated activities, she told me

“I was so keen to produce other IWB materials based on what I learnt that I really wasn’t bothered about the time it took. In fact, I spent hours at the computer searching the web for sound effects.”

Mentoring proved to be a positive experience for all applicants, being described by Jackie as *“the best training I have had in a long time.”* Jackie believed mentoring to be an important feature of CPD programmes and suggested that it should be included wherever possible. This opinion was reflected in Sean’s interview responses; he realised that:

“I know that it is not possible for all training to be carried out like this - it can’t always be on our terms, there has to be whole school training, but where the opportunity exists I think we should adopt mentoring.”

The above evidence clearly shows that the inclusion of mentoring in this CPD programme produced positive results. All staff participating in the second case study of this project stated that they had gained skills and knowledge as a result of being mentored with Jessica admitting that:

“I have never learnt as much as I did over these last few weeks as I have in all the courses I have been on.”

The final comment should come from Tom, who stated

"I would like to think that this is just the beginning. I found it the best way yet to learn."

CHAPTER SIX

The difference in time between the case studies was approximately one year and this meant that I was able to visit the first case study school one year following the action that took place as a consequence of the research. The situation was different with the second case study as this part of the research took place close to the write up and this meant that the lapse of time was not enough to make any judgements on the longer term effects of the action that took place there. This chapter provides an evaluation of the findings of the research in addition to identifying areas for further development.

Evaluation

First Case Study

The action in the first case study addressed a problem that was deemed important at that point in time. On interviewing the deputy one year after completing the first case study, I learnt that there had been a change in a significant number of key staff. With only seven staff plus headteacher employed at the school, the effects of the change in staff, according to the deputy, was quite noticeable in terms of the direction and priorities of the school. She informed me that she was responsible for the induction of new staff and that she used the model of mentoring used in the first case study within the induction process. However, she was disappointed that the school had returned to the previous structure of CPD and was again purchasing courses that took place away from the school site and involved individual teachers. She felt that

"although staff do return to school and give a presentation on the course content I don't believe that the staff here take on board what they learn from these sessions – they should be followed up with mentoring sessions. I believe that this is the only way we are going to take things on board rather than just playing lip service. Once the new head settles in I think I will discuss this with her."

Second Case Study

As a piece of case study research I would hope that the action of including mentoring in a CPD programme would be long lasting and infectious. The action has had a positive influence within the English department but it will be interesting to revisit the school one year on. There is the danger of the good practice being developed within the English department not being shared within the school and therefore the effects of the research may be lost with future changes of staff.

The research did not ask questions of the Senior Leadership Team (SLT); this is a weakness of the research. Without the involvement of the SLT, the inclusion of Mentoring in CPD may become isolated within the English department rather than used with the whole school. The research should have developed a mechanism to ensure that mentoring in CPD continued to develop. The danger is that as teachers within the department leave then so will the use of mentoring disappear. However, what the research did do was to inspire a member of the English department to embark on a course entitled 'Agent of Change' organised by the National Association of Teachers in English (NATE) and funded by BECTA. The course aims to increase the use of ICT in English through a facilitator within the department.

Overall Evaluation

One of the strengths of the research is that the findings were based on actual data of real texts and in-depth interviews therefore affording the ability for the write-up to provide rich descriptions of actual events that otherwise would not have been possible with larger scale formal data collection techniques such as the adoption of questionnaires. On the other hand, some may argue the fact that as the study is small scale this may be considered as one of its weaknesses. With such few participants the scope and generalisability of the study may be seen to be potentially limited. In response to such an argument, it should be noted that the study was conducted on two sites, one a primary school and the other a secondary school, and as such makes the

findings of interest to a wider audience while at the same time making them more reliable in that similar outcomes were evident from both sites.

When considering the reliability of the findings of the study, it should be taken into account that I, as researcher, acted as the sole mentor to all participants of the second case study. This potentially could have been a source of bias for the study, a bias that I feel was minimised by the very fact that I was aware throughout the study that this form of bias may exist. In addition, consideration should be made of the fact that I played no part in the mentoring responsibility of the first case study and yet the findings of that case study were echoed by those of the second case study. This noteworthy observation, I believe, supports the argument that the potential bias being created by me acting as mentor in the second case study was minimal. Although I believe that by acting as mentor in the second case study I did not compromise the findings, I am aware of the advantages of employing a mentor who is not the researcher. In some respects, a mentor who is also the researcher could be considered a potential weakness of the research particularly when realising that in this study there is no reference to the effectiveness of the mentor. It would have been possible to have collected data on this theme through carrying out participant interviews although the potential disadvantage of this method is that there is an inherent risk of bias when considering that the interviewer would also have been the mentor. Such data could have been biased as a result of the responses being made by participants showing a positive attitude towards the work of the mentor, responses that the participants may have thought that the interviewer wanted to hear. A second form of feedback could have been through self reflection although this may have the potential for producing a positive reflection as it could be argued that it is easier to find the positives in oneself and be blind to the negatives that may exist. It can also be argued that it is more valid for a third person to see the truths of a situation rather than a report compiled by an insider. A third form of feedback could have been conducted through asking participants to complete an anonymous questionnaire. However, the small number of participants may have threatened the anonymity of the responses.

Post mentoring semi-structured interviews provided a wealth of data that reflected on the experiences of the participants following their individualised CPD. However, it could be argued that what the research omits to provide is a balanced reflection of the

whole process as the reflections provided are those of the mentees with no reference to those of the mentor. On the other hand, I believe that my decision not to provide reflections of the mentor in this study was justifiable in that the study focused on the professional development of the mentee and not the mentor and therefore it is their opinions that are important. In addition, considering the fact that I acted as mentor in the second case study may have provided the study with somewhat slightly biased responses.

What This Research Does Not Do

Personally, I have found my research to have been enlightening in that it has made the suggestion for schools to consider the inclusion of mentoring when planning their programmes of CPD particularly in the area of ICT. However, on completing this research I find that there are still many questions that remain unanswered, questions that are beyond the scope and time limit of this research. This section makes suggestions for further investigation into the use of ICT to enhance teaching and learning.

Firstly, this research is limited to one primary and one secondary school in which it was found that teachers do not share or make use of their own knowledge and skills in ICT. It would be interesting to investigate to what degree this situation would be found in a larger number of primary and secondary schools either within a Local Authority or even wider still, nationally.

Secondly, in my research, it was found that there was a wide range between confidence and knowledge in ICT among the teachers who took part. However, it was not necessarily the case that those who were more knowledgeable and confident in ICT used their skills to enhance their teaching and the pupils' learning. Michael (a second case study participant), for instance, was extremely knowledgeable and confident in ICT but limited its use to a more personal level and admitted that he had gained knowledge from the mentoring exercise in how to employ his abilities pedagogically. It would be interesting to discover if this was the general case for

teachers as this information could be used to inform senior leadership teams when organising the planning of CPD programmes in ICT.

Thirdly, this research does not take account of gender/age differences. It does not indicate to what extent these factors may influence the findings. Although my own research suggests that young males tend to be more literate in ICT, this suggestion has not been reported as the evidence would not substantiate such a claim. In order to make such a claim, I would recommend introducing a quantitative element into the research by collecting substantial amounts of data by way of questionnaires distributed to a large number of educational institutions.

Fourthly, although I did mention school budgets to a limited degree towards to the beginning of my research, I did not collect data that would indicate the effect that school budgets would have on the research findings. As a headteacher, I was aware of the influence that the senior leadership team (SLT) had on school priorities. This research does not take account of any influences that the SLT may have had on its findings and therefore it would be interesting to investigate the influences of SLT and the employment of mentoring in programmes of CPD.

CHAPTER SEVEN

This chapter provides the reader with answers to the research questions as identified in the Abstract at the beginning of this research and supported by evidence collected from both case studies. Furthermore, it offers a suggestion for a nine point model of mentoring that has been shown to be successful in this research in helping teachers in their professional development in ICT. Although the literature review and findings of this research project do report some negative attitudes of teachers towards their initial NOF training, this chapter offers a balanced argument and provides suggestions why teachers may have developed these attitudes. The chapter continues by highlighting the key aspects of mentoring that were found to be among the essential attributes of the mentoring that took place in this research project and concludes by showing how the mentoring improved pupil learning.

Conclusions

The research questions, and purpose of this exploratory study, are related to the effective mentoring of teachers. The research data supports Little's (1990) suggestion that an informal style of mentoring promotes a positive relationship between mentor and mentee. The study does not claim, however, that this model of mentoring would be successful in all styles of CPD. The research data also provided information about the participants' previous experiences of CPD particularly in the area of ICT with evidence collected through teacher semi-structured interviews supporting the findings of OfSTED (2004b) and Conlon (2004). This evidence also provided an insight into the participants' requirements for CPD upon which the model of mentoring adapted was based. The qualitative nature of the study allowed for the rich description of events that would otherwise be lost by the employment of quantitative data collection methods.

These conclusions are formulated in response to the original research questions:

- Can mentoring improve staff attitudes towards the use of ICT in the classroom?
- Can mentoring be used as a tool to enhance CPD in ICT and hence encourage staff to increase and develop their use of ICT in the classroom?

The current study has mapped the development of a piece of research organised in two distinct case studies each taking place at two separate locations. The initial rationale for the research was primarily for teachers to improve their knowledge and skills in the use of ICT with the ultimate aim that this improvement would, in turn, produce significant changes in teaching and learning. Interestingly, what the research did reveal was that the teachers' initial CPD experience in the area of ICT did not prepare them sufficiently to give them confidence in their own personal use of ICT and the use of ICT in their teaching. As a consequence, the main problem that developed out of the research was to determine how mentoring could be used to enhance programmes of CPD in ICT.

Before making any attempts to discuss the conclusions of the current research, I feel that it is important to put the research into context of CPD and models of mentoring as discussed in the literature review above, as it is possible that the model of mentoring suggested in this research will not be applicable to all forms of CPD. There are, according to Friedman and Phillips (2002) three distinct policy types of CPD, compulsory, obligatory and voluntary. They describe each as

“Compulsory policies insist that individuals must participate in that professional association's CPD programme in order to remain members. Sanctions are usually applied in cases of non-compliance. Obligatory policies refer to participation in CPD as a professional obligation although there is no compulsion. Voluntary policies stress the benefits to the individual member and perhaps also other

stakeholders such as the profession, employer, clients and society but there is no obligation or compulsion on the member to undertake CPD."

(Friedman and Phillips, 2002, pp 273-274)

The policy type of CPD applicable to this research, according to the definition of Friedman and Phillips (2002) quoted above, is that described as being voluntary. I do not claim, therefore, that the recommendations developed from this study for the inclusion of my model of mentoring in programmes of CPD are transferable to other policy types of CPD. This can be appreciated when considering that there exists more than one policy type of CPD and numerous models of mentoring. However, there is the possibility that an alternative model of mentoring may be employed to enhance other policy types of CPD.

Returning to the Research Questions

Can Mentoring Improve Staff Attitudes Towards the Use of ICT in the Classroom?

In both case studies there was evidence that there had been a change in the attitudes of staff towards ICT.

Doris (first case study participant) admitted that she was more knowledgeable and secure in her abilities to assess a piece of software before presenting it to her class. Previously she was cautious in using ICT in her classroom due to her lack of confidence and relied on other teachers to suggest suitable available software. She explained that her confidence was in using the teaching methods that she was familiar with and this did not include the use of ICT to enhance the teaching and learning in her classroom. In her opinion, the NOF training had not prepared her sufficiently to incorporate the use of ICT in her planning and therefore she disregarded the computer that sat in the corner of her classroom. She was aware that with the inspiration and support of Angela, who had acted as her mentor for the purpose of this research, she was consciously including an aspect of ICT in her planning. Angela believed that the

research had encouraged staff to reflect on the way that ICT was being used in the classroom and to consider the way it could be used in the future.

Similar findings were evident in the second case study. Nadia, for example, demonstrated her change in attitude through the use of phrases such as; *"You wouldn't believe how much I've learnt."* *"I feel so excited."* *"For once I feel confident."* *"It was like magic and I've even tried it myself."* Nadia is here referring to her new found ICT skills and confessed that the mentoring experience gave her the confidence to use what she had learnt to produce ICT materials by herself although she still needed to refer to the notes she had made during her mentoring sessions while producing the original resource. Even where the ICT knowledge and skills of teachers were not added to, as was the case with Michael whose knowledge and skills were already advanced when compared with those of the remainder of the group, there was a change in attitude in terms of how those skills could be used. For example, Michael explained that although *"my ICT skills were not stretched at all, I've definitely changed in my teaching."* He is referring here to his use of the teaching resource that he produced during the mentoring activity and continued to explain that although the resource itself was easy to produce he was looking for inspirations from the research activity to enable him to use his ICT knowledge and skills in an imaginative way that would enhance his teaching.

Can Mentoring be used as a Tool to Enhance CPD in ICT and Hence Encourage Staff to Increase and Develop Their Use of ICT in the Classroom?

The analysis of data collected during both case studies revealed that some staff, for instance Jessica and Sean (2nd case study mentees), had low expectations of the activity prior to it taking place. On completion of the task and following the participants' use of the IWB resource that they had produced, their opinions were different. Without exception, participants found that mentoring enhanced the initial NOF training that they had received and, although they were not fully aware, they

were able to build on the skills and knowledge that they had acquired as a result of NOF funding. Gerladine, a first case study mentee, commented that she

"hadn't realised just how much I had learnt on the NOF course. I think what it is is that I just hadn't had the time or inclination to have a go. That's the same with a lot of courses I guess – you are enthused and fired up with good ideas but when you get back to the classroom the daily pressures just take over. By having a mentor, however, you are encouraged to have a go and if you know that a colleague is going to have a look to see how you have done then you feel obliged to at least have a try."

Geraldine's comments highlight

- the notion that it is easy to suggest that very little has been gained from attending a course until such a time that the newly gained skills and knowledge are required and
- that mentoring is a useful form of CPD that may be used to encourage course participants to utilise the skills and knowledge gained.

Certainly in the second case study mentoring was used to support the skills and knowledge of the mentees in producing an IWB resource that they then used to enhance their teaching. Tom reported that he *"actually enjoyed the activity"* and continued *"I got such a lot out of it - improved my computer skills and improved my teaching through the use of the stuff we produced."* Furthermore, he told me that he intended to build his own library of IWB resources that he would produce himself. Likewise, Jackie declared that she also was *"keen to produce other IWB materials based on what [she had] learnt."* These statements are a true testament to the success of the mentoring activity being used as a tool to encourage staff to develop IWB resources.

Teachers' Attitudes Towards Training Provided by the NOF

Teacher interviews encouraged participants to reflect upon the NOF training in ICT that they had received. The data collected from these interviews suggested that staff, generally, were not satisfied with this style of provision. In this research it was found that the style of training offered to them through mentoring was more appropriate to their needs.

One-to-one interaction was identified as being an important feature of the mentoring model in helping schools in their professional development of teachers. There is clear evidence in the data to show that teachers welcomed training that was individual to their needs and preferably offered on a one-to-one basis. A selection of participant responses that supported this finding is given below:

Firstly: *"it is important that we all learn from one another. We have to understand that sometimes our way is not always the best way and we have to be prepared to change and have a go."* Response from Greta (first case study participant).

Secondly: *"I believe that we should admit our weaknesses and look for help in trying to eliminate them and if you have a colleague who you can turn to then why not use them?"* Response from Mark (first case study participant).

Thirdly: Jackie (second case study participant) suggested that training should be organised on a one-to-one basis and that is subject and person specific. A further requirement of hers, she explains: *"I would also like somebody sitting with me while I have a go."*

Finally: Tom's (second case study participant) suggestion for training was that *"ideally it should be one-to-one and preferably from someone you know and feel comfortable with."*

Analysis of the data also indicated that participants preferred a style of training that was informal, provided support and allowed them the opportunity to 'play'. It would be true to describe this study as one that employed an informal model of mentoring that supported a voluntary policy type of CPD, as described by Friedman and Phillips

(2002) through which participants were offered challenge and support within a trusting, nurturing and caring relationship.

The following attributes, as suggested by this research, should be included in a model of mentoring that could be effectively employed in a school's CPD programme of training:

The model of mentoring should:

- offer one-to-one mentoring
- be an informal process
- offer a supportive, trusting relationship that is ongoing, nurturing and caring and one that encourages, counsels and befriends
- be a helping process
- be a reflective process
- offer role modelling
- provide challenge and support
- provide awareness giving, observation and comparison
- provide informal assessment and
- focus on the individual's personal development.

It should be understood that this is the model of mentoring that satisfied the needs of the teachers who participated in this research. It was revealed, through this research, that staff viewed their NOF training as a generally negative experience and one that did not equip them with the necessary skills to confidently implement ICT into their teaching. However, it would be incorrect and unjust to conclude from these findings that the NOF did not equip teachers with skills in, and knowledge of, ICT. Indeed, if NOF training had been unsuccessful then it could be argued that we would have not ventured further than BBC computers and huge black floppy disks! Although my comment does have a hint of humour, it can be perceived that the training provided through the NOF training has had a positive effect on the teaching and learning in schools. On reflection, the somewhat negative attitudes of teachers participating in this research towards the NOF training they had received do not take account the

purpose of the training that they had received through the NOF initiative. To strengthen this argument further, McCormick and Scrimshaw (2001) suggest that

"the approach adopted by government agencies in implementing a national training initiative to support the use of ICT in teaching reveals a strong preference for an 'efficiency' level of change. Yet, as we have seen, ICT will bring other levels of change too, for which such training may not necessarily prepare teachers."

(McCormick and Scrimshaw, 2001, p54)

Implicit in the suggestion provided by McCormick and Scrimshaw (2001) is that the training provided by the NOF could not be expected to prepare all teachers for all levels of change and therefore, I suggest, it would be unfair to criticise the outcomes of NOF training if the criticisms do not take account of these other levels of change.

Through the literature review, I have discussed teachers' attitudes to CPD and obstacles that may make their participation in CPD problematic. It may be the case in this study that the participants' attitudes towards NOF have been developed through their own perceptions of the training they had received in ICT, being ignorant of the government's expectations of such training, or as a result of the decisions and actions of their school's leadership team. Fullan (2002a) warns that in order for change to take place, the expectations of CPD need to be shared with the course participants, a suggestion highlighted by Nadia (second case study participant). She defended her feelings of anger towards her experience of ICT training by explaining that she was unsure of the expectations of the school and therefore this made it difficult to change. She was also critical of the support of her department; it was her opinion that management should encourage an environment that fosters support because without it

"it makes me feel kind of down about my own skills and ability. People underestimate the importance of those feelings in your professional life and yet they have a big impact."

Nadia was also the participant in this research project who was in need of immense encouragement in order to persuade her that she was able to change. It was not until she experienced success in her ICT abilities and success in teaching and learning that

change was apparent. Following her successes, a change in attitude towards ICT was also apparent evidenced by her enthusiasm when reporting her excitement at being able to produce a similar ICT resource to the one produced during the case study. When talking about the change in teaching and learning, her positive attitude was clear as she explained:

"I enjoyed teaching using the materials we produced. I found it exciting and I know the pupils did - they came into the classroom asking me if we could carry on with it - they were so motivated and the work they produced was brilliant. My enthusiasm and confidence obviously passed onto them - we all loved the experience."

An explanation for the change in Nadia's attitude and the ensuing enthusiasm of her pupils is suggested by the work of Sparks and Loucks-Horsley (1989), who believe that

"when teachers see positive results from their efforts to change, they are more apt to continue to engage in improvement it can help teachers to see that change is possible."

(Sparks and Loucks-Horsley, 1989, p49)

It should be made clear at this point that the training in ICT provided through mentoring in this study is not purported to be superior to that provided through NOF, neither is it suggested that it should replace such training. Instead it should be understood that mentoring was utilised to support and enhance the NOF training that the participants in this study had previously received. I believe that both models of CPD have worked together in order to produce the intended outcome, an increase and development in the understanding, knowledge and use of ICT by teachers to improve teaching and learning in the classroom. I also believe that without the initial input of the CPD provided through NOF, the CPD provided through mentoring would not have been possible as Nadia, for example, needed whatever she had gained through NOF in order to develop it through mentoring. Teachers in this study had asked for individual training that met their own needs and was relevant to them and their

classrooms and therefore criticised NOF for not providing for their needs. However the intention of NOF was not to provide such a high level of support, rather to ensure that all teachers were in possession of the basic skills to enable them to build upon and develop these skills further. It is therefore unjust to criticise NOF provision before follow up training is completed. If this argument is to be accepted then we can ignore Nadia's initial attitude to CPD in ICT and report on the positive attitude that is evident post-mentoring. I hope that it is clear from this argument that it is not the intention of this study to take full credit for Nadia's changed attitude towards her training in ICT, rather than the suggestion that it is the shared efforts of the training provided by the NOF and mentoring.

Clearly, mentees' attitudes towards ICT had improved as a result of the mentoring exercise and this change in attitude impacted on the use of the teachers' use of ICT in the classroom through software, as in the 1st case study, and hardware, as in the 2nd case study. Banks et al. (1999) state that

"teachers' attitude towards ICT is a very important factor which stake-holders ought to consider in implementing ICT in education."

(Banks et al., 1999, p4)

Certainly, in my own research, it was evident that as teachers' attitudes towards ICT improved so did their willingness to implement ICT in their classroom. Doris, for example, a 1st case study mentee, admitted that the mentoring exercise had helped to improve her attitude towards ICT in education and as a consequence she found within her an eagerness to experiment with and implement appropriate software into her teaching. Similarly Nadia, a 2nd case study mentee, exhibited a change in attitude towards the use of IWBs in her teaching: initially being opposed to the introduction of the hardware into her department her change in attitude also brought enthusiasm and excitement towards the utilisation of IWBs in her teaching. A reason for a teacher's reluctance to implement new technologies into their teaching and learning is suggested by Banks et al. (1999). Their research indicated that a

"student-teachers' ability in using software as a tool for teaching and learning is low since more than two thirds of student-teachers

indicate a lack of confidence in using software as an educational tool."

(Banks et al., 1999, p4)

This statement was identified in my own research when Jackie (2nd case study mentee) admitted that:

"my lack of confidence in ICT is certainly a barrier and because I lack confidence I avoid using ICT in my lessons yet I know that I will have to now that we have these IWBs in our rooms."

Not only did Jackie admit to her lack of confidence but also, as did Nadia, admit that she lacked the competence in ICT to be able to use it in her teaching. Similarly, Banks et al., (1999) also found in their study of teachers' attitudes to the use of ICT that

"graduates are not competent enough to adopt new technologies in their learning tasks."

(Banks et al., 1999, p5)

The findings of my own study, therefore, would suggest that a teachers' reluctance to adopt ICT in their teaching is influenced by their attitudes towards ICT coupled with their confidence and competence in ICT and its adoption in their teaching to enhance the learning of their pupils.

Mentoring as a Key Component of CPD

A component of effective mentoring is the time given for mentors and mentees to reflect; reflection occurred throughout the mentoring process in this research study from the initial meeting, where a reflection on a perceived problem took place, followed by reflections following interventions, and a final reflection on completion of the exercise. The reflections were, as described by Moon (2004),

"the mulling over of ideas that have already been learned - the organizing of them - the considering of how, for example, what has

been learned will fit into the patterns of the work-place to improve practice."

(Moon, 2004, p8)

Moon (2004) continues to describe how reflection can be incorporated into CPD in a number of ways stating that asking participants to reflect on how things can be different following CPD is a powerful tool to promoting the changes in order to change behaviour. The notion of 'the reflective practitioner' is also discussed by Hoyle and John (1998) who believe that teachers are more likely to improve if they are given opportunities to reflect on their practice. The suggestion that teachers should be self-critical, self-evaluating and reflective and then have the ability to change their practice following such reflections is given by Schön (1983, 1987). However, Benner (1984) suggests that many practitioners, even though they may exhibit high levels of practice, are unable to identify how they practice and therefore there is a need through CPD to provide teachers with opportunities to be reflective in order to bridge the theory-practice gap. In reviewing the concepts of reflection and reflective practice, James and Clarke (1994) show how these concepts are integral to the professionalism of practitioners and lead to improved and more effective practice.

The style of reflective practice found in the model of mentoring in my research was collaborative in nature with the mentor encouraging the mentee to be reflective. This style of collaborative working was shown by the research carried out by Cordingley (2007) to be more likely to produce positive outcomes for both the teacher and pupils alike. Furthermore, Cordingley (2007) found that schools that encouraged reflective practice also contributed to making CPD more effective and suggested that more expertise in mentoring was required to support each other through CPD. Implicit in these findings is that collaboration, reflection and mentoring have the power to make CPD more relevant, appropriate and effective which in turn should impact on the practice of teachers and school improvement with improvements in pupil achievement.

Mentoring was one of the forms of support highlighted in the report produced by Cordingley et al. (2003b) where participants felt "*it was safe to admit need and which was responsive to individual needs.*" (Cordingley et al., 2003b, p64). Without doubt, all teachers in the first case study of my research reported that the mentoring situation

facilitated an atmosphere in which they felt comfortable in exposing their own needs. Roberta did admit, however, that she

“felt threatened at first but after a while that turned into a more professional outlook and trust because we saw that we both needed each other and we both had something to contribute.”

Mary reported that she wasn't embarrassed about her lack of abilities rather than

“what others might think my abilities might be. I thought they would expect me to be really good because especially being a new, young member of staff it's often assumed that we are all computer literate.”

When discussing collaboration, Mary felt that *“it broke the ice”* and *“made people more open.”* These comments provided evidence that the mentoring exercise worked as a key component of CPD in which an environment was created where teachers felt comfortable to express their needs. Furthermore, as evident in the case study, CPD was enhanced by a model of mentoring that developed and fostered teacher ownership of their own professional development whereby participants used their own professional judgements in reviewing and planning their development activity and how this would impact on their learning needs and on the achievements of their students.

One of the successes of this mentoring project was the ability to provide for the participants training that responded to their own individual needs through one-to-one mentoring. It is important to acknowledge, however, that to provide this model of mentoring in programmes of CPD would not always be realistically possible. Firstly, it would be a luxury to provide one-to-one mentoring as this has the potential to be both timely and costly, characteristics that were not under consideration for this research project. Secondly, although the participants in this research project defined their own CPD needs, school, local and national needs also need to be satisfied. Furthermore, OfSTED (2006), in their report on a school's arrangements for the professional development of their staff criticised those schools that *“relied too heavily on staff's own perceptions of their needs.”* (OfSTED, 2006, p4). In a previous report,

OfSTED (2002b) suggested that whole school CPD had a positive impact on standards of achievement particularly where the training was relevant to the current priorities of the school. When commenting on training that related to national initiatives, the same report found such training did

“much to help teachers understand how to plan their teaching to raise pupil’ standards of achievement.”

(OfSTED, 2002b, p20)

These findings do not suggest that individual training needs are to be ignored rather than they need to be placed in context of other priorities. The implication could also be that individualised training provides a limited impact on raising achievement when compared to training that addresses school, local or national needs. In addition, it could be argued that senior leaders are more perceptive of the needs of their staff when considering that they, by their position, have a holistic view of the school’s needs and have a responsibility to improve the quality of teaching and learning that exists within the school.

Key Aspects of Mentoring

Co-planning, co-teaching and encouragement were highlighted as key aspects of successful mentoring in this research. The notion of collaboration, as discussed above, is woven into these three aspects in that

“Collaboration produces discussion and action together. Aims are thus clarified, experiences shared, language and concepts for analysing practice are refined, the personal insecurities of innovation are reduced, evaluation becomes reciprocal and commitments confirmed.”

(The Open University, 1995b, p75)

Co-planning

I found that within my own research the personal insecurities of the participants towards ICT were reduced by co-planning, evidenced by the fact that teachers, in particular Nadia, became more comfortable with the use ICT in the classroom. Discussion and action were made possible through a co-analysis of practice that took the form of co-planning and co-teaching. The co-planning that took place in the first case study enabled the mentor and mentee to share their knowledge and understanding of using ICT in their lessons. Both mentor and mentee in this situation were equal in status in that they both had equal amounts to learn from one another with both acting as mentor to the other one of the pair and like wise both were in the role of mentee. Within the second case study, however, the mentor shared their knowledge and experience of using ICT in the classroom. Through co-planning the lessons to be taught, the mentor contributed the ICT aspect of the lesson while the mentee, being the English expert, provided the craft knowledge of an experienced English teacher. Co-planning in the second case study enabled both mentor and mentee, as suggested by Burn (1994), to adapt the resource produced *"to the particular context in which the topic was to be taught."* (Burn, 1994, p5).

An important aspect of the co-planning sessions was the debriefing of the previous lesson, the results of which were used in the co-planning of the subsequent lesson. This co-analysis of practice also acted as a form of assessment where participants were encouraged to reflect upon and be self critical of the previous lesson. Nadia, in particular, considered these sessions to be times when she received encouragement, support and reassurance. In the early stages of the project, at a time when she was developing her skills and confidence in using the IWB, she readily defended its lack of use arguing, for example, that she didn't have the time to spend typing the lesson objectives to be used on the IWB explaining that it was much simpler to write them on the white board and refer to them as the lesson progressed. It was clear when co-teaching her early lessons that she was not comfortable with setting up the 'hide and reveal' of the IWB and subsequently minimising and retrieving it during the lesson. There was an instance of her closing the objectives of the lesson and becoming frustrated when attempting to retrieve them. When discussing this instance during the

following co-planning session she explained that her lack of confidence and knowledge in using the IWB led to frustration and this was coupled with her awareness that the pupils were waiting and watching. Through co-planning we were able to deal with this problem which in turn helped Nadia improve her confidence.

Co-teaching

Co-teaching was an aspect of the second case study whereby participants increasingly became responsible for teaching the part of the lesson that was directly related to using the IWB. Through co-teaching the mentee had the opportunity to develop the necessary skills and knowledge necessary to make use of the teaching resource previously developed which in turn led to a greater use of the IWB recently installed in the classroom. At the co-planning stage it was agreed to display the lesson objectives on the IWB using the 'hide and reveal' facility that enabled the objectives to be shared with the class one at a time. During the first few lessons of the co-teaching exercise the mentor led the part of the lesson that involved using ICT. As time progressed the mentee took an increasing responsibility for this part of the lesson until the mentee's confidence was such that solo teaching was possible. The time scale between co-teaching and solo teaching varied between participants. Sean, for example, was already confident in using ICT in his teaching and therefore his needs were concentrated on using the resource to enhance his teaching of suspense stories. For this reason there were only two co-teaching sessions whereas Jessica was a novice in the use of the IWB having never investigated its capability. The co-planning and co-teaching sessions focussed on enabling Jessica to become proficient and confident in the use of the IWB in front of, as she described it, *"a group of young people who know more than me about ICT technology."* It was necessary in this instance to prolong the number of co-teaching sessions with the mentor taking full control of the ICT aspect of the first co-teaching lesson. On the fifth lesson Jessica felt confident to solo teach although her confidence was damaged a little when the computer froze and therefore made the IWB inoperable. This, however, was a valuable experience for two reasons: Firstly, it produced a real situation that Jessica more than probably would have met in the future and by meeting the problem while being supported by a mentor

made the situation less traumatic. Secondly, as the problem was rectified by a pupil, Jessica felt comfortable with accepting the fact that pupils may be, in some instances, an authority and could be relied upon to assist in matters concerning ICT in the classroom.

Encouragement

In agreement with Halai (1998) I believed that, through acting as mentor in the second case study of my research, mentoring was a tool through which participants were helped to *"become aware of possibilities in teaching other than what they were practicing."* (Halai, 1998, p297). This was achieved through encouraging participants to use ICT to produce a teaching resource following which the resource was used in conjunction with the IWB to enhance their teaching and their pupils' learning. The co-teaching and co-planning aspect of the mentoring process in both case studies included encouragement and, particularly in the first case study where both the mentor and mentee were colleagues in which case the participants were *"positioned as co-learners as they engaged in professional dialogue with one another."* (Le Cornu, 2005, p358). In this instance the participants became genuinely involved in one another's learning, as well as their own, encouraging one another to go outside their comfort zone in attempting to work with a medium (ICT) that was unfamiliar to them. Through encouragement, the participants became *"co-learners in a process of discovery."* (Kochan and Trimble, 2000, p21), encouraging not only the best in their mentor/mentee partner but also encouraging the best in themselves (Noddings, 1992).

Mentoring to Improve Pupil Learning

The findings of this research project have shown the potential for mentoring to be useful in investigating, informing and improving the practice of its participants. Furthermore, the project highlighted how teachers' practice can promote and sustain the process of critical reflection to improve their practice and enhance pupil learning. Co-planning, co-teaching and co-analysis provided both the opportunity, and the

catalyst, for systematic reflection and a critical analysis/assessment, of current practice. The co-analysis of practice sessions focused on pupils' responses to teachers' questioning, teacher strategies for stimulating pupil speaking, listening and writing.

In the second Case Study, the stimulation provided by the IWB and the teacher resource that all mentees produced, pupils were encouraged to develop their own suspense stories. Observations of lessons confirmed an increase in pupil enthusiasm to become involved in question and answer sessions, expressing thoughtful inspirations for suspense story writing. Without exception, mentees reported an improvement in pupil behaviours, attitudes and quality of writing. Further mentee comments related to their pupils' unusual eagerness to move into the writing aspect of the task. Michael, for example, observed an improvement in his pupils' ability to produce a plan prior to commencing writing. Nadia commented on the fact that she had seen evidence of her pupils *"extending and elaborating their writing far beyond what [she] had seen before."* Tom reflected on the final pieces of work produced by his pupils stating that *"his pupils' had shown an ability to articulate their thoughts and writing in a manner he hadn't observed in their previous work."* Jackie expressed her observations explaining that her pupils exhibited a greater interest in the lesson and as a result they participated to a much greater extent particularly to the "discussion of ideas" element. All mentees suggested that these observable improvements in their pupils' learning were as a direct result of their involvement in the mentoring exercise. Comments made by Angela from the first case study and Jackie from the second case study are particularly worth noting:

"My learning in the area of ICT has certainly been moved forward through working with my mentor and I believe that this has impacted on the work I have done in the classroom. By implementing what I had learnt through mentoring I believe that the pupils' learning has definitely improved. What I need to make sure now is that I continue with it, and I fully intend to, and not just leave it here as a one-off exercise." (Angela – 1st case study mentee)

and

"I have definitely improved my skills and knowledge of ICT and this has been as a direct result of this mentoring exercise and furthermore this has had a knock on effect on my teaching. I found such a difference in the classroom in terms of pupil attitude, their level of work, attainment and their behaviour when I used ICT as a medium for teaching. If this is the effect then I had better carry on."
(Jackie – 2nd case study mentee)

It may be concluded from the above that because teachers' learning had improved effectively through mentoring, their classroom practice had also changed and as a consequence the pupils' learning had also improved.

It is encouraging to be able to report an improvement in pupil learning following the mentoring exercise however; it would be enlightening to carry out further research in order to research the catalyst for improvement in learning particularly when considering Buckingham (2007), who questions the effect of ICT on learning. He parallels the claims made by the advocates of ICT in education to the claims previously made following the introduction of film and television when predictions about the changes in learning as a result of the use of such media in education could possibly lead to schools becoming redundant. He says that such dramatic changes never emerged suggesting a similar possible outcome following the advent of ICT in education. Buckingham (2007) informs his readers that despite the marketing of ICT equipment in schools showing positive effects on teaching and learning, the growing body of research in this area is suggesting that the impact of such technology on teachers' practice in the classroom is quite limited. He continues to report that the evidence to show the impact of technology on pupil achievement is less than persuasive. In defence of these claims, the advocates of technology in schools suggest that the lasting effects are not yet recognisable due to the fact that the innovation is still in its infancy. Buckingham's (2007) own stance on these theories is not one of opposition; he explains that there is a polarisation of beliefs: on the one hand there are those who regard technology as the future for education while on the other hand there are the pessimists who believe that there is too much importance placed on the use of

ICT in teaching and learning. In an earlier document, Brown (2000), in a similar style to Buckingham (2007), parallels the introduction of ICT in education to the introduction of electricity, both being described as 'transformative'. He believes that, like electricity, the effect of ICT will be gradual followed by an "*exploding impact*." (Brown, 2000, p12). It appears that both Buckingham (2007) and Brown (2000) do both agree that ICT is having some effect on the teaching and learning in schools with Buckingham (2007) warning that ICT is an unavoidable fact of modern life with an enormous for potential for learning. With my own research it could be that the teacher mentees were able to communicate through a digital language previously more commonly used between pupils.

CHAPTER EIGHT

Not only has this research provided a rationale for further research into the strategies for sustaining mentoring in educational institutions it has also provided recommendations for the successful use of mentoring in CPD programmes as developed from the findings. Implicit in the findings is that staff attitudes towards ICT and their desires to spend time away from the classroom involving them in producing useful teacher resources can be dependant on the style of CPD received. These recommendations are therefore based on the principle that the successful professional development of teachers is highly dependant on the style of CPD that is offered.

Recommendations

CPD does not take place in one instant in time, rather than, as the title suggests, it is 'continuing' professional development, a development that spans the career of a teacher. It is impossible, therefore, to give an accurate judgment about the level of success of the training in ICT as provided through the NOF initiative as the NOF provided only the base upon which further development was to be built. Cuthell (2003) informs his readers that the focus of the NOF ICT programme was on developing skills and knowledge of teachers in order that they equalled those required by newly qualified teachers. NOF did not claim that it was going to make teachers ICT experts rather that it would

"provide teachers and school librarians with an introduction to the use of ICT in schools and a foundation on which to build effective ICT practice."

(Cuthell, 2003, p2740)

A further aim of NOF was to enable teachers to integrate ICT into their professional practice through further CPD that would have the potential for more individualised training and would, hopefully, meet the individual needs of teachers. When considering the fact that

"the NOF ICT training programme was a highly complex initiative. It had to meet the individual needs of around 400,000 teachers, working in a diverse set of schools, covering teachers of pre-school children through to those of post-16 students, together with school librarians. All schools required the level of system reliability, knowledge and support expected in business."

(Cuthell, 2003, p2742)

it should be obvious that further training was to be expected following the initial input provided by the NOF. In his small-case post-NOF pilot programme, Cuthell (2003) found that where reactions to NOF was positive headteachers supported staff in using NOF ICT training to explore new pedagogic practice through further training.

What I am attempting to establish here, and in the literature review, is that there are a number of different models of CPD, the outcomes of which are dependent on influences that are found both within individuals and the environments within which they work whether these environments are local, as in a school department, or much wider, as in national initiatives. However, the recommendations given below are based purely on the findings of this study and do not in any way advocate that this is the only form of training rather than it is the model of training that worked at the particular moment in time that this research took place. I would also like to stress that the model of CPD undertaken in this study only served to supplement the training provided by NOF, the results of which illustrated the benefits of enhancing off-site training by follow up training undertaken after returning to the environment where the practice of knowledge and skills learned were operationalised and made more meaningful to the teachers' environment.

The recommendations are as follows:

- Those responsible for the organization of their institution's CPD in ICT should, in addition to school and national priorities, also consider where possible, the needs of its participants. Where it is possible to provide CPD that meets an individual's needs, it is worth considering a model of mentoring as this study has shown that the underlying characteristic of a successful mentoring activity was one that took

notice of the individual mentee's (teacher's) requirements and by identifying these requirements the training was made more relevant. In instances where it is possible for the training to take account of the individual this study suggests that change is more likely to occur where participants are actively involved in deciding and planning their own training. In this way, as was the experience in this study, participants would become active learners rather than passive participants resulting in a motivation and a sense of fulfilment by the participants.

- In addition to training that takes place away from the institution, school based CPD should be considered to complement such training. Implicit in the findings of this research is the possibility that the negative attitudes of teachers towards their initial NOF training were not entirely founded; although the participants in this research may have expressed the opinion that off-site training was not as effective as school-based training, I would suggest that this view does not take account of the notion that both instances of CPD do not exist alone. The mentoring activity merely complemented their initial ICT training provided through the NOF and therefore both instances should be considered as a whole. The off-site training, it could be argued, enabled the school-based training to build upon and utilise the skills and knowledge gained through their initial training. The findings of this study suggested the possibility that teachers may express a negative attitude towards CPD if they do not immediately see the benefits of its outcome. It is important to realise, therefore, that although the research evidence of this study does suggest that teachers showed a greater enthusiasm for school-based CPD, it should be taken into account that the CPD offered to the participants was based on individual teacher's needs through a process of one-to-one mentoring and hence the outcomes were more immediate and more evident as shown in the pupils' attitudes, behaviours and final pieces of written work that were produced by the pupils who participated in the second case study. The evidence of this study does suggest that CPD that is school-based and utilises a model of mentoring is effective in producing the changes required to show an improvement in teaching and learning. This finding supports that of Wragg (2000) who found that the performance of teachers improved where school-based training was provided together with the support of a colleague acting as mentor.

- Strategies should be developed that encourage and foster a close partnership between colleagues. It was evident in my own research that participants benefited from interacting and collaborating with one another and, considering the responses collected through semi-structured interviews, considered the trust, respect and support between colleagues as being an important aspect of their own learning process. Participants responded well to the mentoring situation that offered a one-to-one relationship that was collegiate rather than hierarchical, suggesting that this style of mentoring was preferred over one that may be described as one-to-many or hierarchical. Such a collegiate relationship would foster a power free environment where confidentiality would be cultivated and the anxiety of formal assessment removed. In a less threatening situation staff would feel free to discuss and offer mutual support while providing a source of challenge, or informal assessment, for one another. It is important that such a mutual trust is cultivated. This will, in turn, lead to a positive mentoring experience. The support and encouragement offered through the one-to-one mentoring provided in this research were key issues in the participants' accounts of their positive perceptions of the exercise.
- Protected time, that is guaranteed time, should be built into CPD programmes in order to allow staff to follow up ideas introduced and share their ideas with colleagues. The sharing of ideas may take the form of mentoring sessions and should encourage the dissemination of good practice. My research highlighted the fact that although participants found the whole mentoring process time consuming they were willing to spend their own time producing teaching materials that they could use in their teaching. Participants also valued the time that was allocated for informal assessment that took the form of reflection and self criticism. Although at times participants exhibited resistance to the new challenges that arose from these sessions, the successes that followed produced positive reactions.
- It is important to consider the inclusion of mentoring as an important feature of an institution's CPD programme. A mentor can prove invaluable in the facilitation of CPD particularly if the mentor is motivated by the mentee's requirements. Where possible, the relationship between mentor and mentee should be power free, allowing the mentee to lead the training and by doing so make the training

individual. This view is shared by the Chartered Society of Physiotherapy (2002, revised 2004) who state that *"Ideally, the mentor is not a formal supervisor or line manager."* (Chartered Society of Physiotherapy, 2002, revised 2004, p3). There is evidence to show that the mentoring that took place in this research project, through a process of reflection and improvement, encouraged participants to develop and use their ICT skills in producing a teaching aid which, when used in the classroom, impacted upon their teaching and attracted their pupils' interest. The CPD that took place, using a model of mentoring that was developed to fit the requirements of the situation as described in this research, nurtured an observable change in teachers' attitudes and behaviours with an observable improvement in pupils' writing. Institutions should consider introducing mentoring into their programmes of CPD as participants in my research found that having *"somebody you can go to without being embarrassed"* was advantageous. They also suggested that a culture of mentoring would be valuable when disseminating information gained from attending off site courses or conferences. Implicit in the recommendation that institutions should consider mentoring as a model of CPD is that in order to make mentoring effective institutions should consider the training of mentors. Acting as mentor in the second case study, I believe that I would not have been as effective without a good knowledge of the mentoring process and the activities involved in this process. A recommendation from this research would therefore be that in order for mentoring to be fully effective there would be a necessity for mentors to be trained.

- Departmental training should be effective. Within my research, effective training was achieved through the members of an English department being given the opportunity to work together on a prolonged CPD programme. A mentoring style of CPD was adopted with the subject expertise of the mentor being different to that of the mentees. This does suggest that it is possible to select mentors from within or outside the department.
- Although this study has highlighted the benefits of including mentoring in a school's CPD programme it would be important to consider the possibility of developing the school as a mentoring institution. This step would show the commitment of the Senior Leadership Team to the inclusion of mentoring in CPD

programmes as without their support this style of CPD may be in danger of becoming short lived. On a follow up visit to the first case study school it was seen that a change in staff resulted in the disappearing use of mentoring which may have been avoided if the use of mentoring had been well-established in the development of the school's training programme.

I wish to leave the reader with a quote from Rhodes and Beneicke (2002):

"The national strategy for Continuing Professional Development within the United Kingdom invites schools to place greater emphasis on school-based coaching, mentoring and peer-networking mechanisms. Strong elements of teacher collaboration and mutual support are implicit in these mechanisms and it is these elements that offer the potential benefits of raising teacher confidence, facilitating teacher learning and embedding improvements in professional practice within the classroom."

(Rhodes and Beneicke, 2002, p305)

CHAPTER NINE

Further Research

The present research has:

- suggested that mentoring does have the capacity to improve staff attitudes towards the use of ICT in the classroom,
- suggested that mentoring can be used as a tool to enhance CPD in ICT and hence encourage staff to increase and develop their use of ICT in the classroom.
- provided a model of mentoring that could be used in helping schools in their professional development of teachers.

However, the research does leave us with an important question:

- How can schools sustain the use of mentoring in their CPD programmes?

It has been suggested in this research that in order for schools to sustain the use of mentoring in their CPD programmes there must be the full support of the Senior Leadership Team and one suggestion is that schools develop themselves as mentoring institutions. A significant piece of further research, therefore, could develop its research questions focussing on:

- the transferability of the findings of this research to other curriculum areas and
- the development of alternative models of mentoring that could be used in compulsory and obligatory policy types of CPD as described by Friedman and Phillips (2002).

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APPENDICES

Appendix 1

Diary Notes (1st Case Study)

Staff Meeting

- Staff had mixed feelings about carrying out task, initially looked at it as another task in an already busy schedule.
- Discussed reason for the research i.e. OfSTED key issue.
- Encouraged staff to look on the task as an exercise to analyse software.
- Staff to work in pairs in order to discuss and bounce ideas off one another also to learn something of other key stage.
- Discussed what was expected from them – enthusiasm rose slightly particularly helped along by younger members of staff, not long from University – used to small scale research – see importance of research in the work place – competent computer users.
- Staff happy with pairings – made sure friendship grouping/senior staff worked together.

Paired Work (staff working together)

- Staff carried out their paired work after school because of split site.
- Mixed enthusiasm – younger staff more enthusiastic also those who would be looking for promotion in the future. It was clear that those who would be retiring in the near future also those who were happy to stay at the school showed less enthusiasm.
- Staff learning from one another:

AJ and DA - AJ has experience in both key stages, DA expressing concern that not enough time to give all pupils experience at the computer, difficult to organise. AJ has long conversation with DA explaining how she organised computer work when she taught Reception. AJ

familiar with program chosen by DA – AJ led discussion on effectiveness on this piece of software and pointed out strengths and weaknesses.

JB and MG - shared KS1 and KS2 experiences. Both enthusiastic about benefits of using computer as a teaching and learning tool for pupils and for own personal use. Very useful conversation about how KS1 pupils use the computer differently to KS2 pupils – many of the older pupils have computers at home and are therefore confident in the use of them also are familiar with some of the software used in school, especially DTP can leave them to get on – pupils as expert almost. KS1 pupils need more guidance and individual time.

GHS and MJ – MJ more enthusiastic. GHS admitted becoming more convinced on the use of the computer in the pre-R classroom but held onto her belief that the basics must come first. GHS did use the computer in her classroom and spoke quite freely about the software she would be using. MJ, an NQT, was quite eager to learn about pre-R from GHS and asked her many questions about organisation and the use of the computer in the pre-R classroom. This seemed to raise GHS's enthusiasm, who is passionate about her work and enjoys talking about it. This led to discussion on the software to be used with GHS being positive about its usefulness. MJ, already a confident computer user in the classroom, was the catalyst for GHS's new found enthusiasm!

WD and RF – both spoke easily about their use of IT in the classroom and how it is integrated into the curriculum – WD mainly uses it to support work in other curriculum areas while RF teaches computer skills in addition to using it across the curriculum.

Work with Pupils

- Work with pupils carried out during lesson.
- Staff took exercise seriously, making notes as it progressed. DA, though, left pupils at computer not helping them or talking to them about the software. All

staff worked on what the pupils knew and built on that (constructivism/scaffolding)
– DA's notes were made after the session and then only very briefly described software with no other notes on pupil reaction etc.

- Explanations given to pupils, by staff, about software showing depth of understanding about it. Staff looking closely for evidence of learning and built on this. GHS worked closely with pupils and was attentive to their learning and needs
– definite learning curve for her.

Appendix 2

Notes for Producing Semi-structured Interviews (1st Case Study)

- Did this work as a mentoring strategy?
- Evaluate use of computers:
 - Is ICT use increasing since carrying out 1st case study?
 - Is ICT use improving since carrying out 1st case study?
- Was staff expertise shared?
- Were staff happy working together?
- Are there any advantages/disadvantages for working together?
- Are there any specific things that were learnt from working together?
- Were strategies used for sharing expertise robust enough to use for other subjects?
(transferable skills with point below?)
- Can strategies used also be used for inducting new staff?
- Has the exercise changed the culture of the school?

Appendix 3

Outline Questions Used in Semi-structured Interviews (1st Case Study)

I want you to reflect on the work you did with (colleague) when you both presented a piece of software to a group of pupils.

- Firstly I would like to get a feel of how people felt about working with a colleague.
Did you mind working in this way?
Could you be quite honest with one another with regard to your abilities (or lack of them!) or did you find that you had to hide them through being embarrassed?
- What comments could you make with regard to staff sharing expertise?
Would you say there are any advantages/disadvantages for working together?
Were there any **specific** things that were learnt from working together?
- If we evaluate the use of computers in our school, would you say there has been any change in their use since carrying out the exercise?
- Do you think the exercise worked as a mentoring strategy?
Were the strategies used for sharing expertise robust enough to use for other subjects?
Can the strategies used also be used for inducting new staff?
- How, if at all, has the exercise changed the culture of the school?

Appendix 4

Diary Notes (2nd Case Study)

- What is it about a mentoring relationship that results in an improvement?
- Could include in the data mentoring that has not resulted in an improvement.
- Was the improvement about the relationship? Therefore need to look at the relationship.
- Don't know what mentoring is so need to write critical review defining the notion of mentoring - it is therefore self-defining – definition arising out of research.
- Not going to tell them what mentoring is – going to look at their relationship – letting research guide me – looking at emergent data – truly qualitative.
- If it is formal mentoring then this is different from the mentoring if the mentee chooses their own mentor – this is significantly different.
- Is improvement in skills due to mentoring?
- Mentoring as a reflective practice – Nadia feels learning to be frustrating and humiliating – do the pupils feel like this? Can mentoring also help the pupils?
- Phenomenological Action Research – do the research before the literature review. Write a descriptive piece and see what emerges from it and then do the reading.
- Ethnographic Research, Case Study.
- Read about the above types of research – decide where mine fits – get The Handbook of Qualitative Methods by Denzin (look at Amazon).
- Do I have to do interviews – semi-structured interviews? Can it be a chat? Or draw out themes from the chat to produce the interview schedule?

Appendix 5

Outline Questions Used in Semi-structured Interviews – Pre-mentoring (2nd Case Study)

Thankyou for giving up your time to help with the data collection process in preparation for the pending research project. I have a general idea as to the type of information I require from this interview and as such have prepared questions around the areas of your training in and knowledge and skills of ICT in addition to the type of CPD that best suits your learning. You may, of course, add to the interview any comments or suggestions that you feel may be of help.

1. Training

What type of training in ICT have you received? e.g. Was it formal/informal?

What did the training consist of?

Did you receive any ICT training during your teacher training?

Has any training you have received in ICT been of benefit to you in your use of it on a personal level? e.g. use of computer for keeping records, producing lesson plans etc.

Has any training you have received in ICT been of benefit to you in your teaching? e.g. use of interactive whiteboard, helping students to use ICT in their work.

What skills and knowledge (if any) have you acquired through your training?

Has it/how has it impacted on your teaching and hence pupils' learning?

As a learner, did you find the training effective?

2. Current skills and knowledge

What challenges do you face in ICT?

What would you like to be able to do/goals do you have in ICT if you were offered training in that area?

Do you know that the school is a Microsoft Academy and that they offer courses on Microsoft software such as Publisher, Word, PowerPoint and Excel?

What is the ethos in your department in relation to ICT? Is ICT viewed positively? i.e. what are the attitudes of the staff in your department towards ICT?

What impact does this have on your own professional development with regards to ICT?

Are your knowledge and skills in the area of ICT on a par with those of the pupils who you teach, e.g. knowledge and skills of Microsoft Publisher/Word/Excel etc., in order to teach these skills to pupils?

Are you competent enough in your knowledge and skills in ICT to use them within the classroom to enhance your teaching and hence the pupils' learning? e.g. use of the interactive white board

3. Needs for training

In what form do you think any future training should take?

What do you feel would be the most effective training for you?

Once again, thank you for taking part in this interview, your time and interest is greatly appreciated. Once I have transcribed the interview I will pass you a copy of the transcription for your comments.

Appendix 6

Outline Questions Used in Semi-structured Interviews – Post-mentoring (2nd Case Study)

1. Introduction

Hi NAME, thanks for agreeing to take up your time for another interview.

Well as you know, it's your experience we have come together to talk about. Just to remind me, how were you feeling before the mentoring exercise took place?

2. Skills gained

I am assuming that you have gained some skills as a result of the last few weeks - would you like to share with me what you have learnt - if anything?

3. Feelings towards mentoring

If I remember correctly, you had a pretty bad experience of training in ICT! Have things changed?

4. Mentoring as a form of CPD

Do you think mentoring could be used as a form of CPD in future training?

5. Improvement in teaching and learning

Has there been a significant change in teaching and learning for you?

Thanks again for your time and I'm pleased you found the experience worthwhile because then it's worth all the time and effort that we have all put into it.

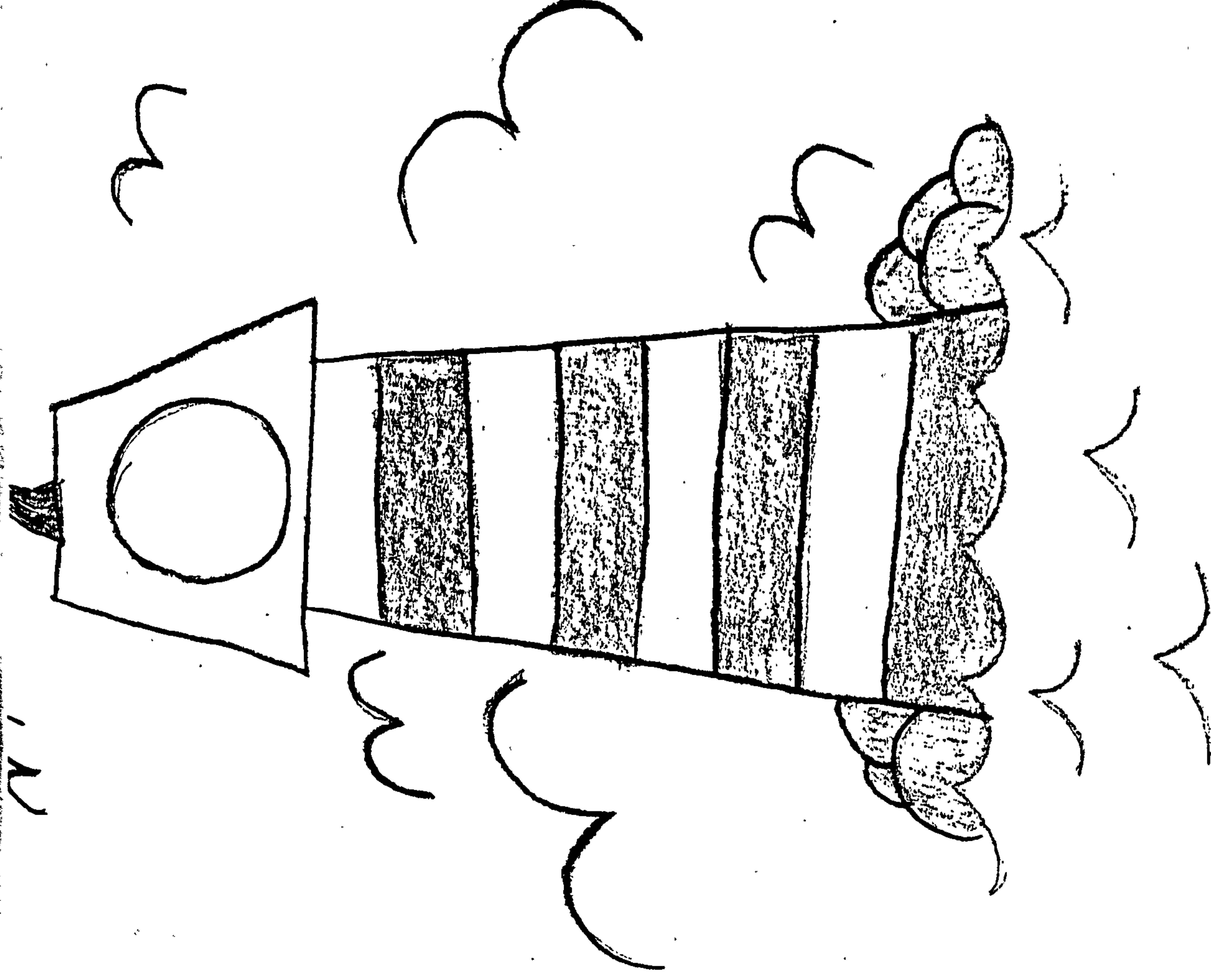
Appendix 7

Examples of Pupils’ Work.

TEXT BOUND INTO THE SPINE

The Lighthouse

Illustrated and
wrote by



etting
ghthouse

Femi and
Sade (brother
and sister)

- Femi: humble,
calm, careless,
boastful, da-
ring, stupid
Sade: timid,
secretive,
mysterious.

clever
Towered figure
shadowed over
the Forbidden Lake,
the Forbidden
Bulb overheard
long ago, no
information
whatsoever
top point is blunt.
Meet for original
science project on
history of town.

Build up
Life boat
blown down
after point
of rock had
caught
it and
treasured
it as a
dangered
warning.

Smelt-salty
sea air and
smoke from a
up-coming boat

* Heard-Bells from
nearby church,
Footsteps ech-
oing

Seen strikes
of lightning,
AA Bulb symbol

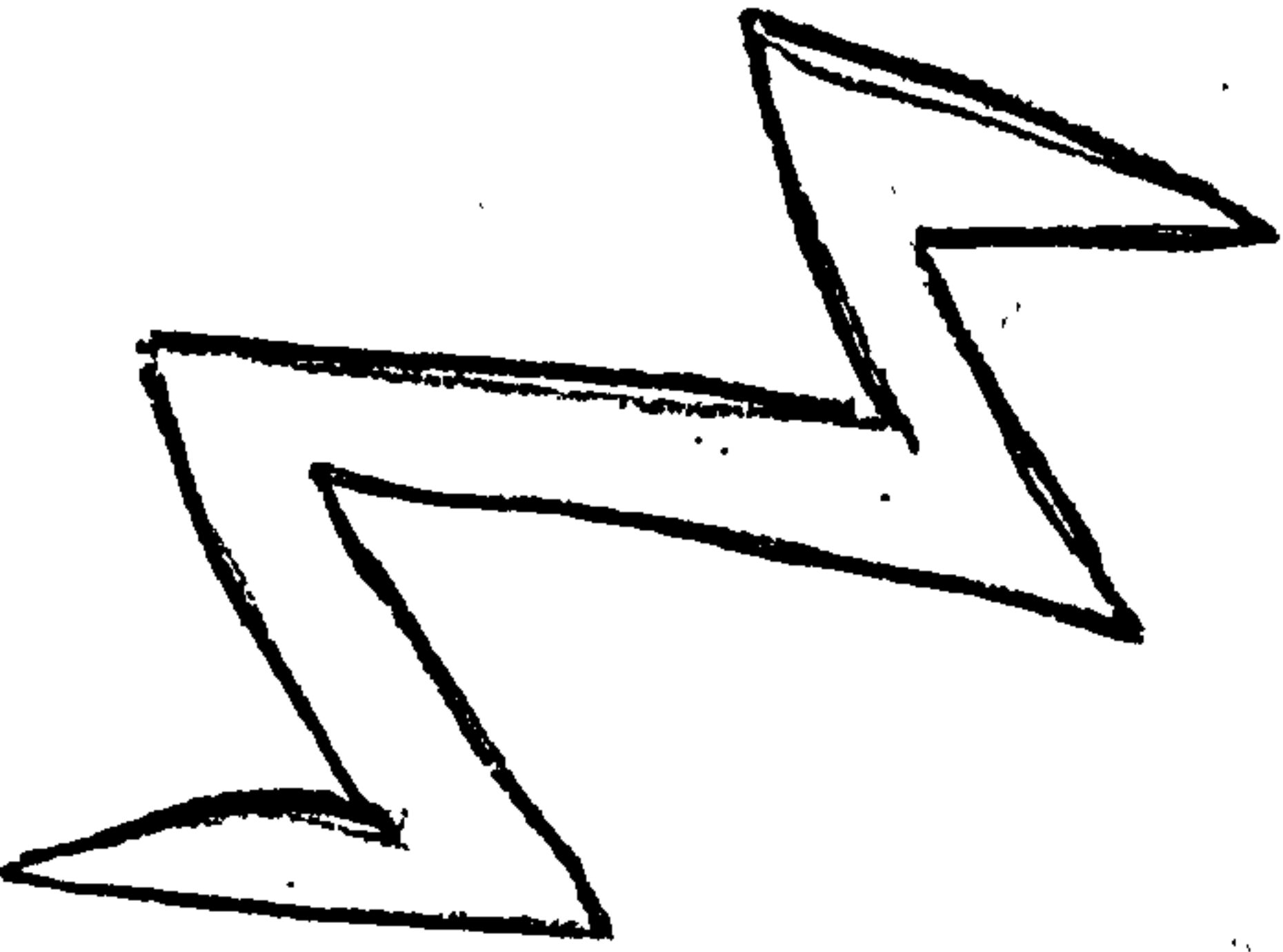
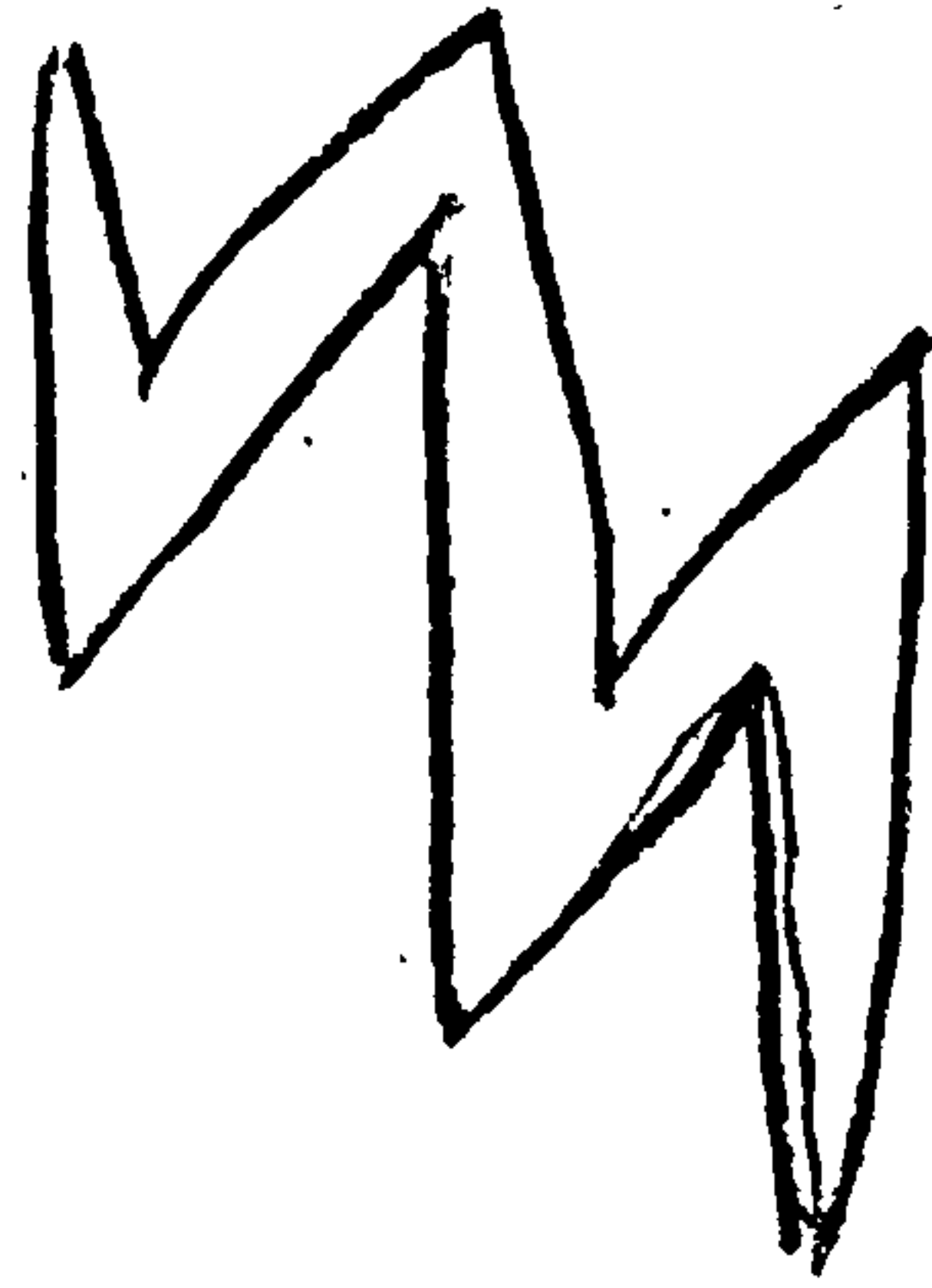
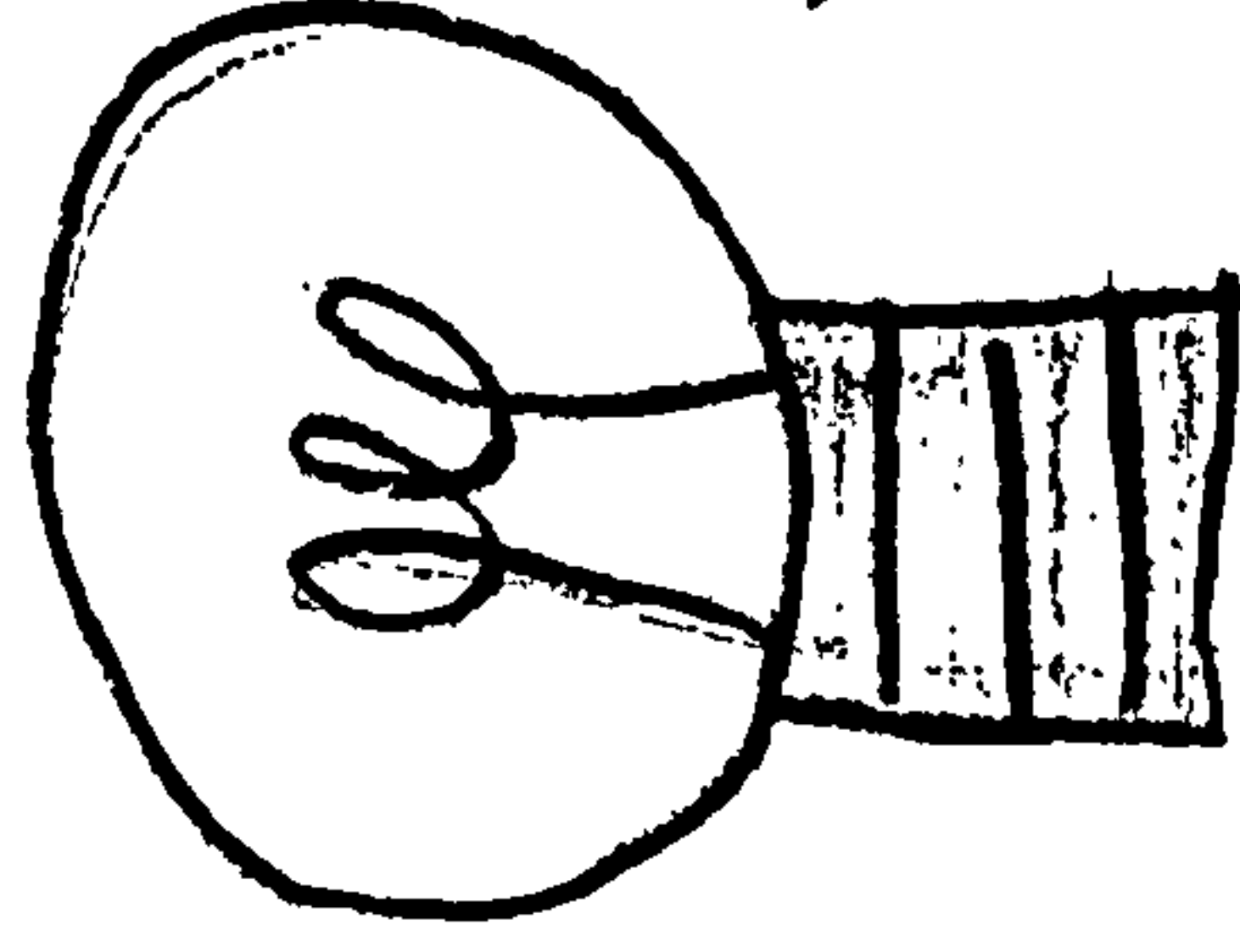
Felt-Rubber

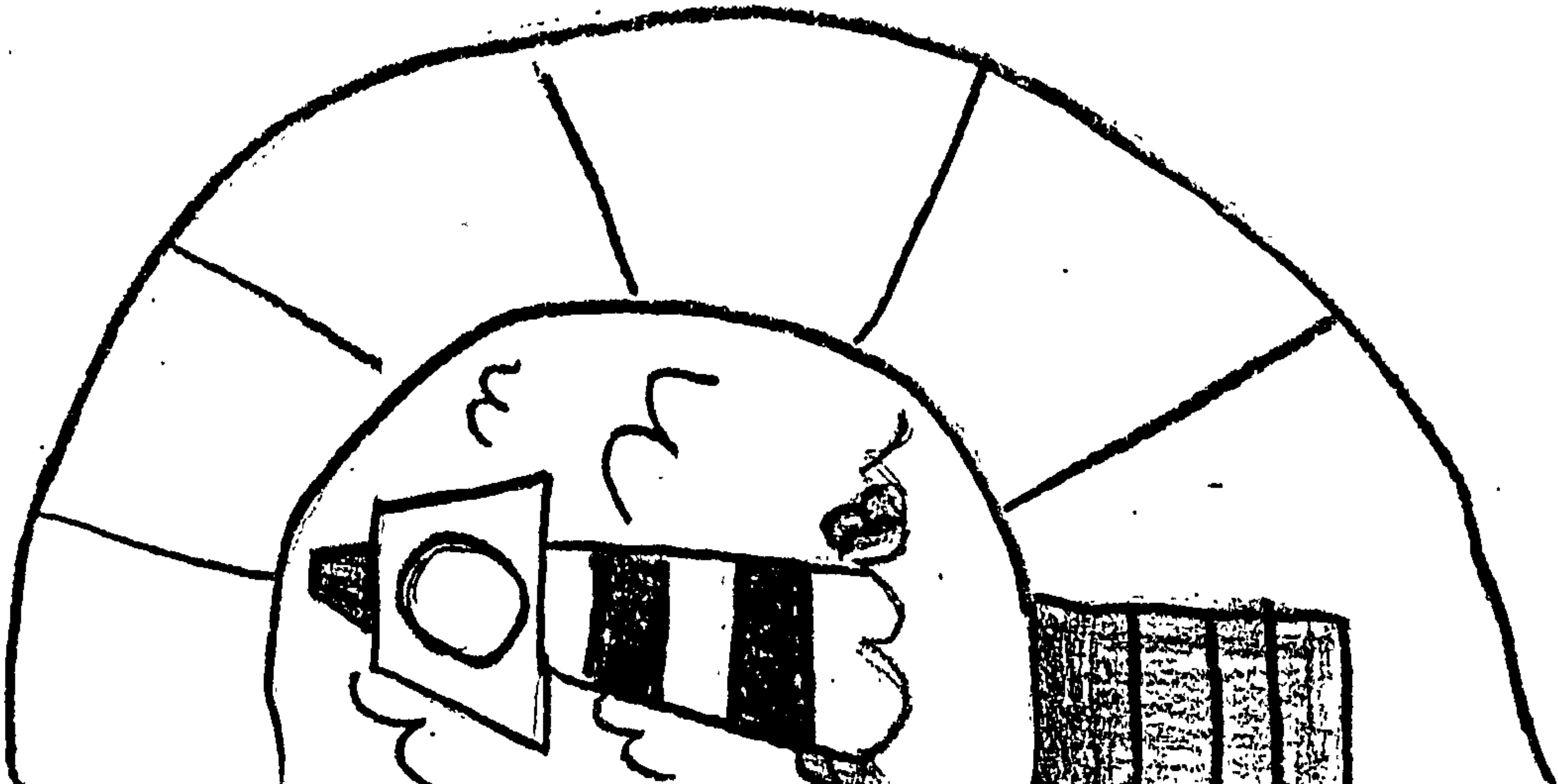
of
torch,
Sweaty
switch

Weird Teacher warns
of one particular
place is mysterious

The lighthouse

Silverdale citizens knew one particular landmark had been mysterious, so mysterious that no one could remember who, when and what could have built this lighthouse. It had belonged to the Forbidden sea - which clashed against the lighthouses' towered figure- leading up to its blunt point, making contact to the lightning bolts above...





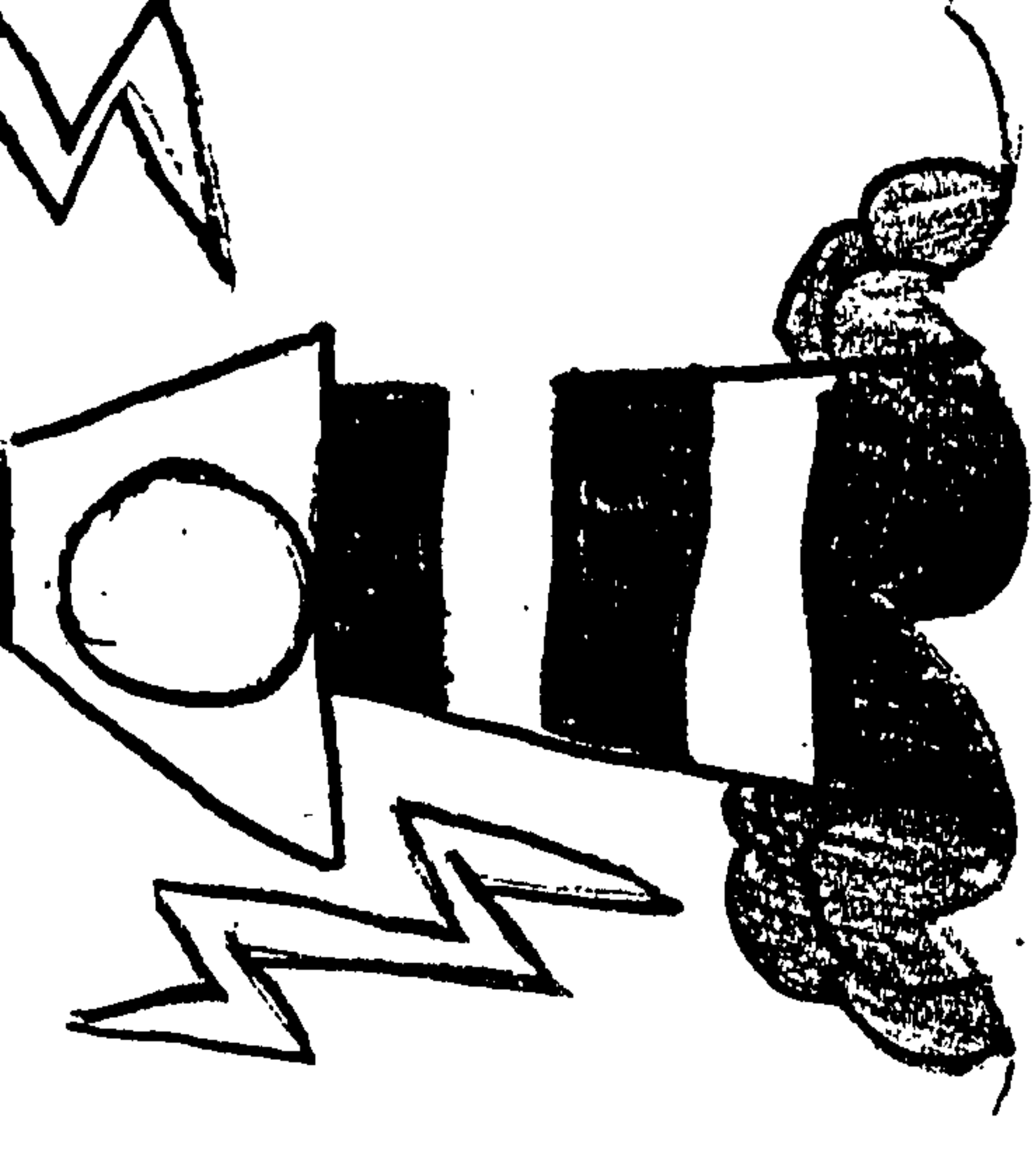
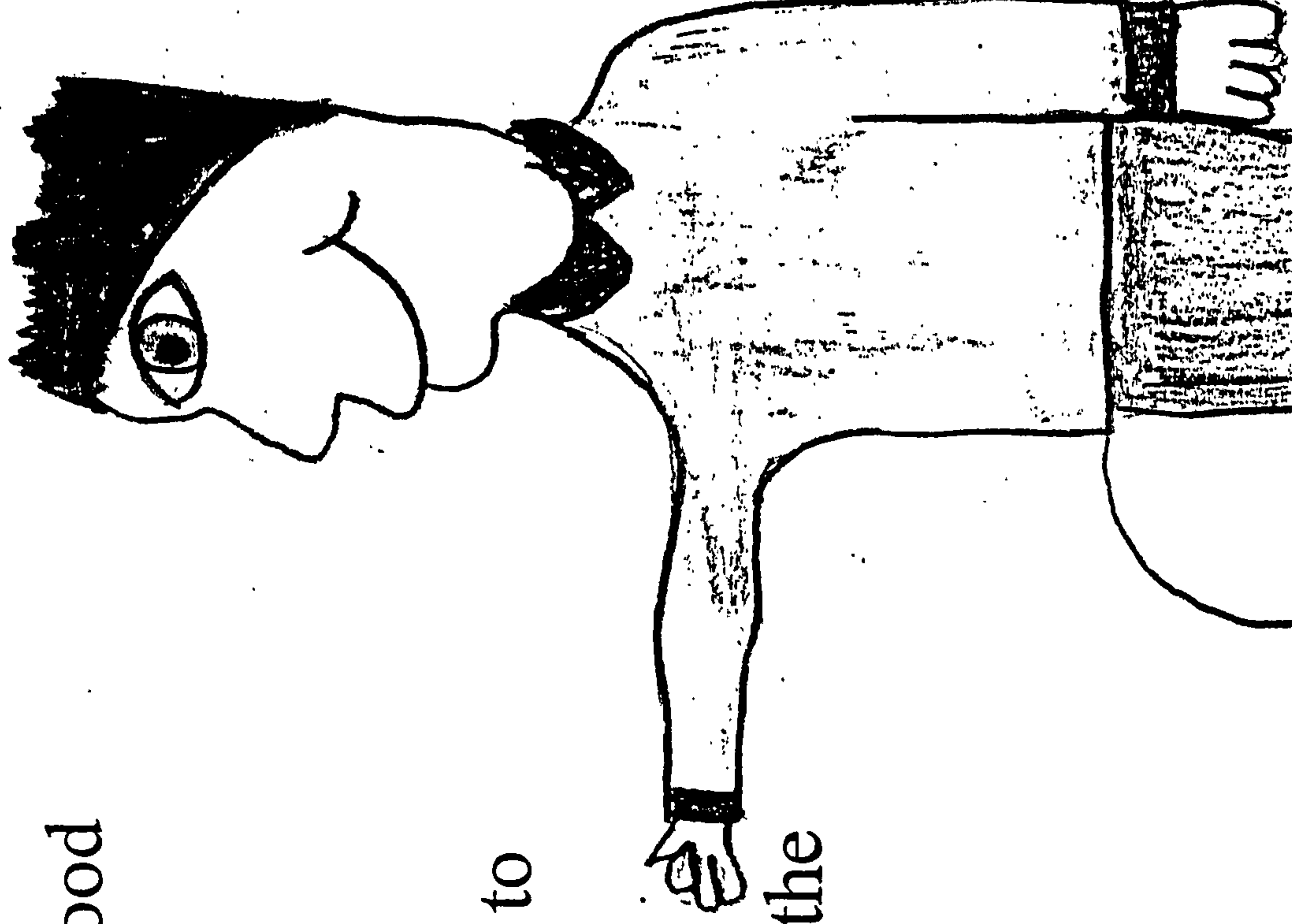
One evening, which clouds overshadowed the town, Femi Naidoo met Sade Jones and together , went to the Lighthouse to research it's history for a project.

Femi strode ahead, as always. "Miss Parker down the market says the lighthouse is deserted .Huh! She's a nutter, there's nothing wrong with that place."

Sade gulped and held her breath, frightened of the future.

At the pier, Femi hovered to look across the tatty town “Clueless people,” Femi snarled cunningly and stood in the lifeboat.

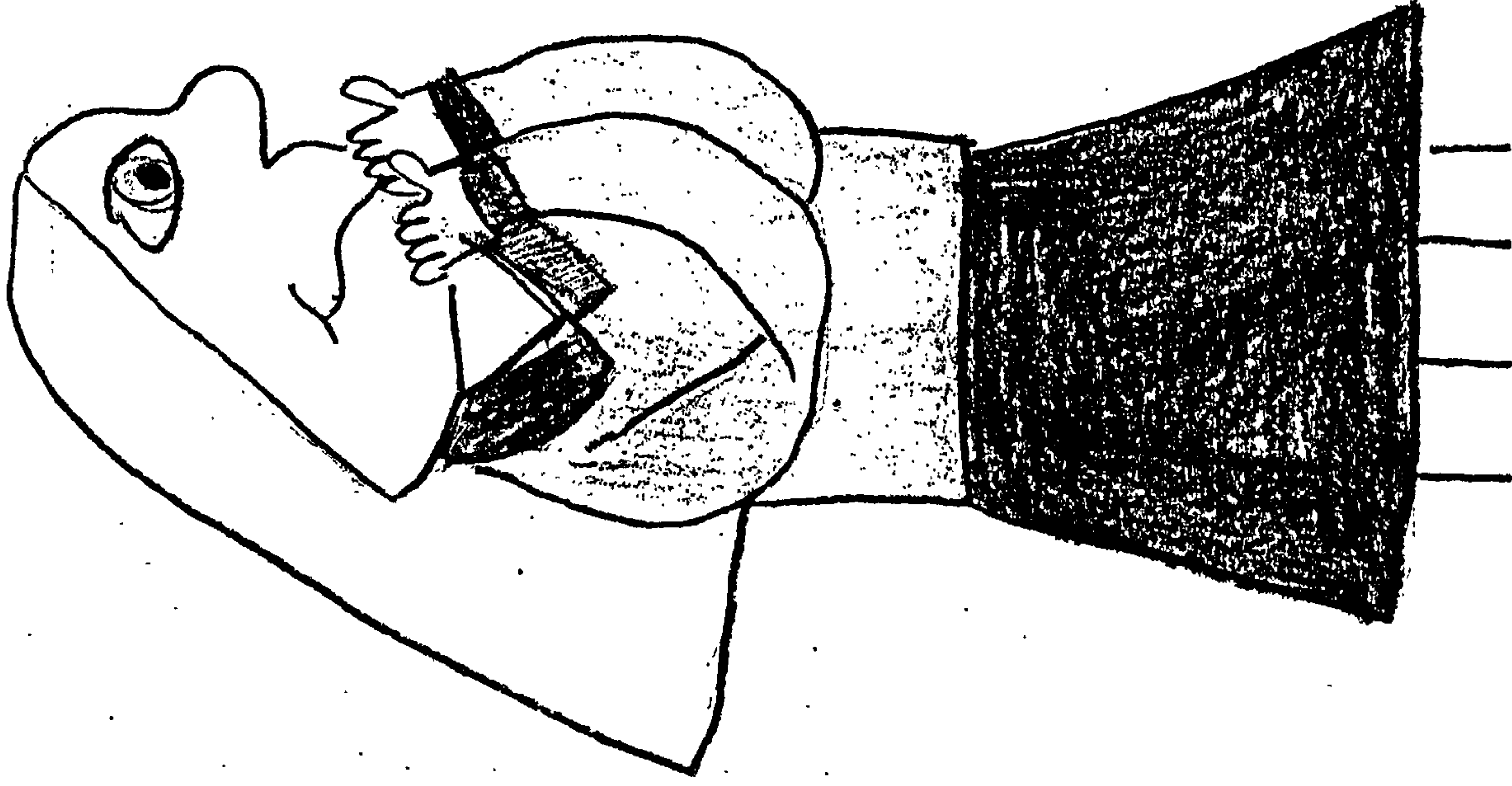
Last Spring, a group of survival people travelled to the Lighthouse , but now that same boat had been deflated by the points of the sharp rocks which possessed the lifeboats tragedy.



“Who do you think has done that?
Survival Team? Holiday
makers?” Sade questioned
hurriedly.

But Femi had already out the
boat and scurried up the stairs
“Come on” he yelled “This will
get us a couple of facts.”

He explored the top floor and
kicked a stone down the stairs to
cause an echo throughout the
whole lighthouse.

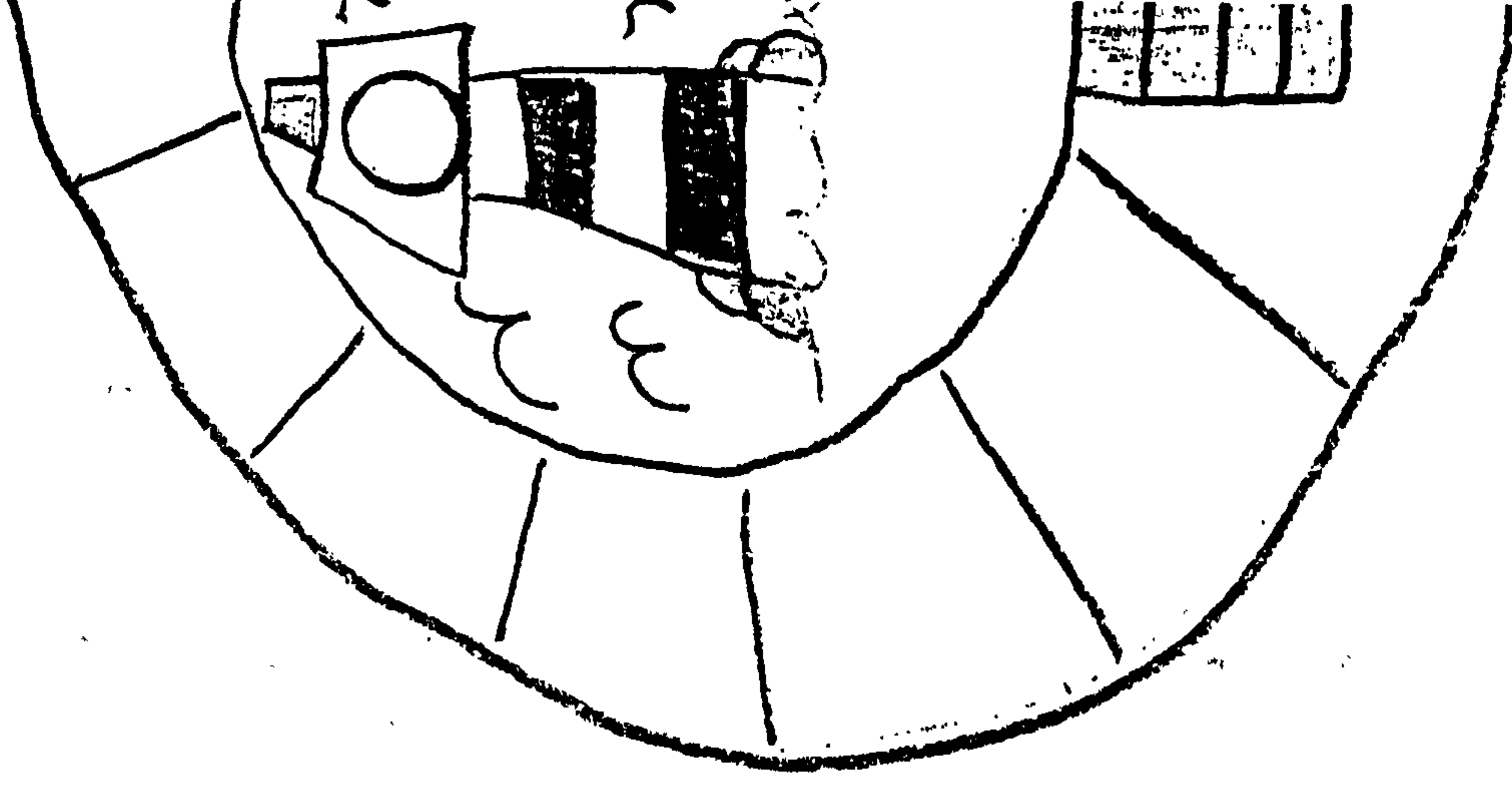


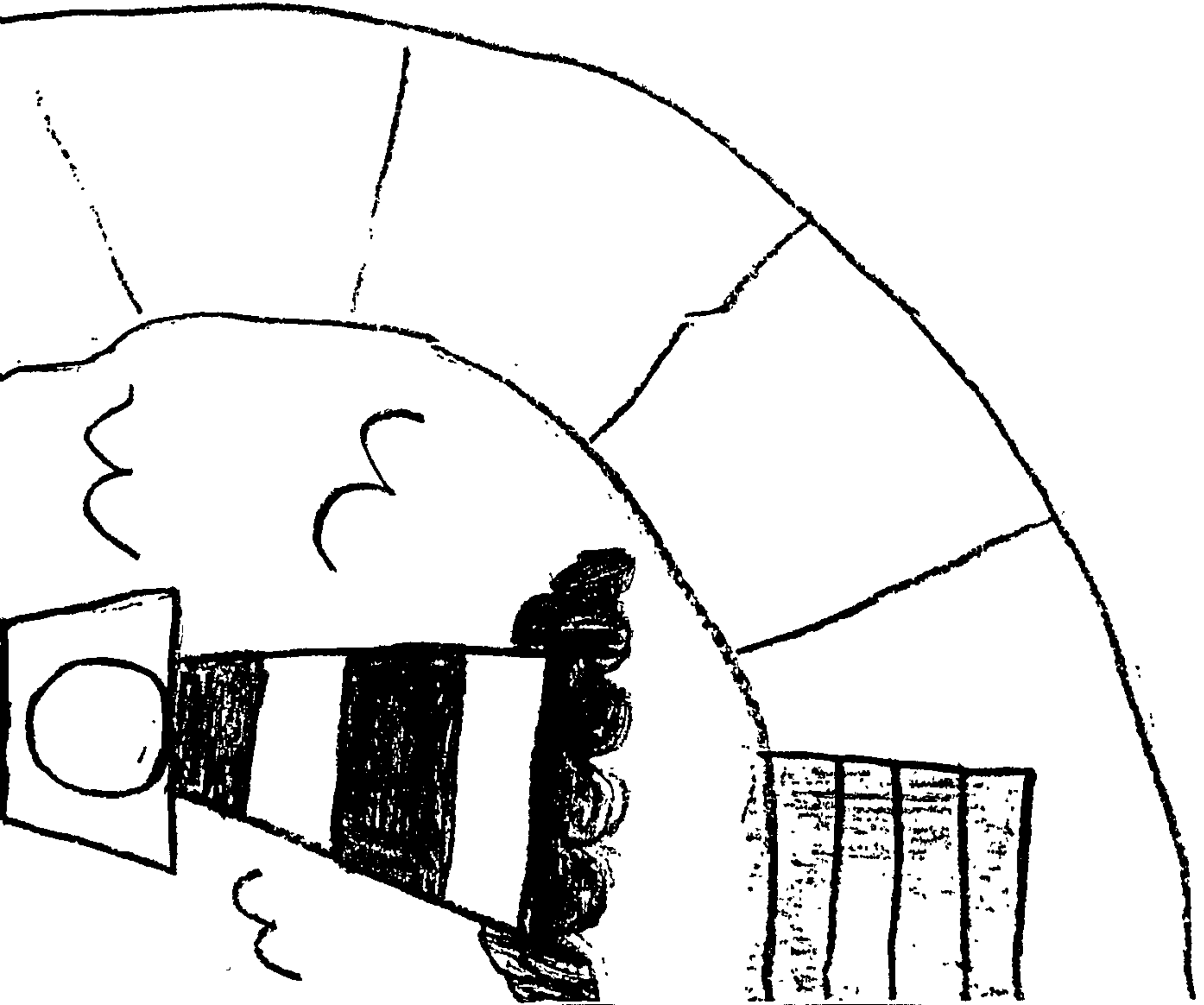
Sade stood motionlessly on the stairs and began her way up towards the light. "It has a source of source," Sade said to herself, staring above "It's like the sun. A hypnotist. A mind-boggling, mysterious hypnotist."

Femi didn't reply. Except for the beam of light shining through his torch, silently standing.

"Femi?" Sade whispered.

"Femi?" Still no answer; So Sade hummed to herself, and stopped to hear her voice echo again and again- still, it didn't calm her, she stepped more into the lighthouses' presence to get used to it's strange feeling.





Sade quivered and stepped closer towards the light bulb. Strange feelings began to overcome Sadie so much that she dropped her torch “Aaahh!”. She checked the torch, and discovered that it was only the bulb that had blown. A thousand “hey”s suddenly appeared out of nowhere, so did Femi.

“Where have you been?!” Sade demanded.

“Looking.”

“Hey, have you got a spare torch?”

“No, but I can get you one from across the market. I’ll be as quick as a click. Honest.”

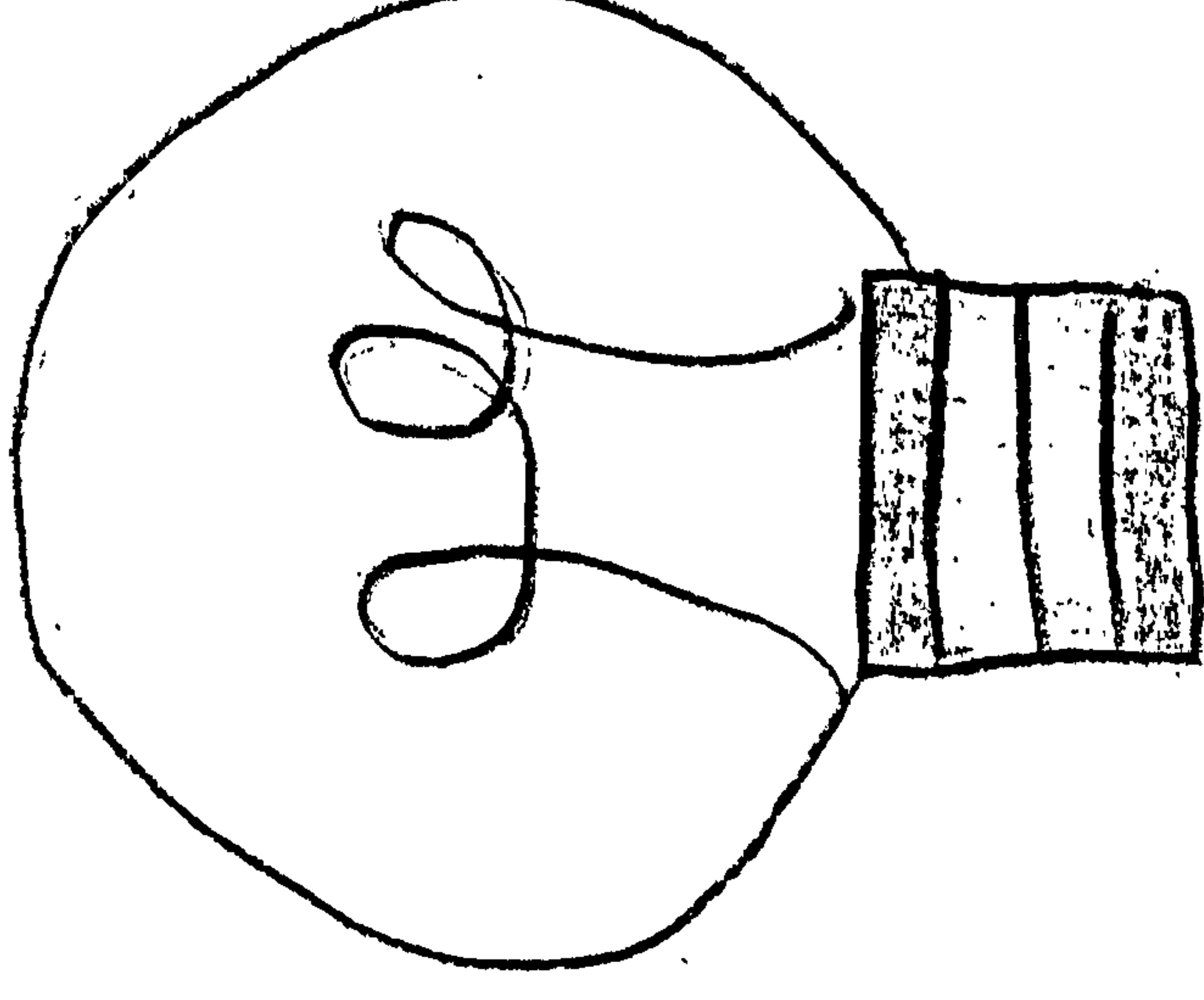
“Okay, but I must warn you....” Her words were lost in the wind.

Sade scrunched down and held her knees together. "I'll be fine" she whispered "I'll be fine." But when she looked down, a long distance away, the sea grew higher and higher towards her.

All about her the lighthouse grated and grinded. *Those are the metal panals. They're not as sturdy as they used to be.*

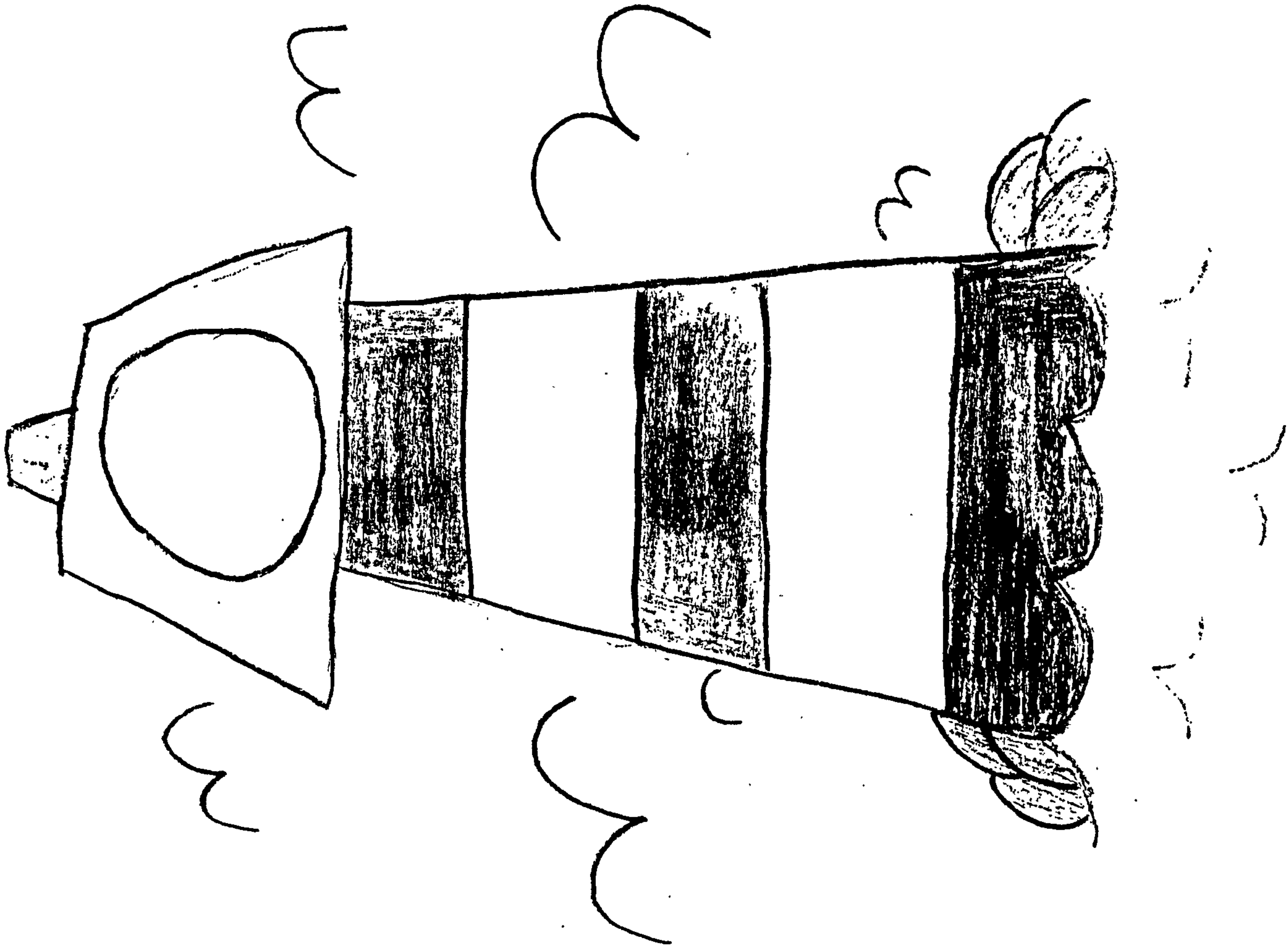
There was a smell. That's *the hidden smoke*, he reasoned. *The smoke burnt from the bulb.*

but she was scared, very scared and, shuffle by shuffle – to not make a sound to scare herself even more.



A figured shadow appeared on the wall beside.

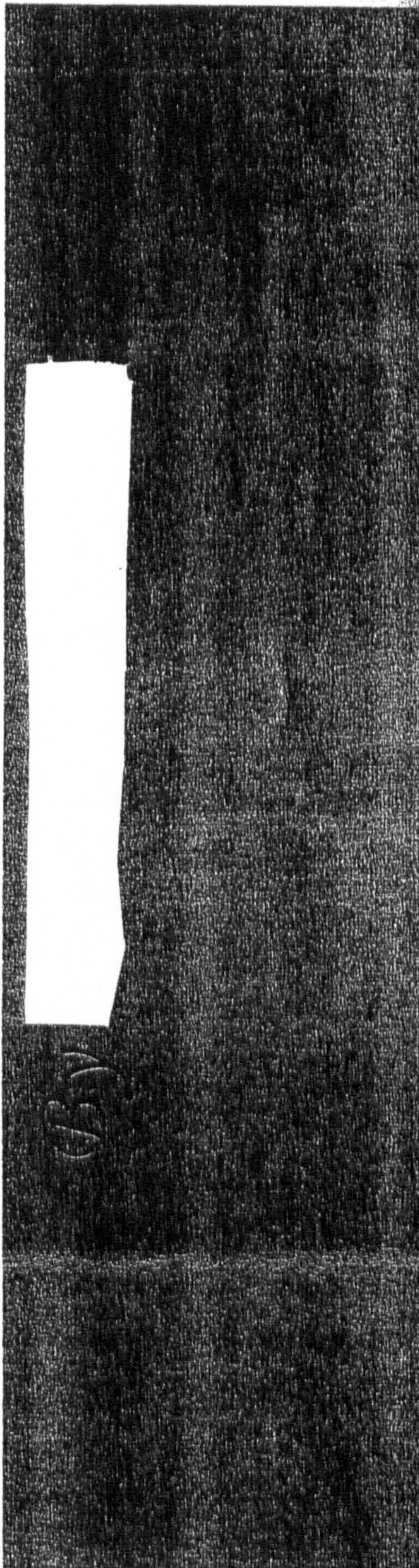
“Femi?” Sade called . “Are you there?” No answer “Femi?” she
susurrated, getting up. “Femi...”



When Femi returned, causing flicks of the torch, he feasted his eyes on Sade. “Did you get the light bulb working? Did it blind you? You look freaky, especially in the eyes.”

“Nah, nothing much happened while you were away. Come on. My mother will be expecting me soon...My eyes are to be tested at the opticians...”

Forbidden graveyard



Name :

Build up

danger sign
and smashed
grave stone

I ~~was~~ ~~just~~ you
before ~~ago~~ there
was an electric
fence so trespassers
can't get through
gets smashed
open

can ~~see~~ see

loads of graves
one smashed

can ~~hear~~
gate creaking
smell mud

feel mud wind
mist

Setting

grave yard!

Wind noise

Smashed grave
creaking gate.

Jay and bob

clatting

confident

brave

met park

when
playing
football

clatting

Jay went

up ~~to~~ because

mum

said dangerous

bob followed

Just

mum says

dangerous

Something

could happen

to you

scared
nervous

RIP
rest in peace
Born 1984
Died 2005

RIP
Rest in peace
born 1995
died 2005

RIP
Born: 1960
Died 2004

RIP
rest in peace

born 1980

died 2005

home graveyard

*Nobody in Rustion, knew why Rustion graveyard
had an electric fence. But it stood, stuck in the
mud- it's rusted bars two hundred years old
looking down on Rustion it's self.*

One winter night Jay met Bob outside the dark graveyard..

Jay led the way as always "My mum says it's dangerous in the graveyard" cried Bob "Come on you wimp" shouted Jay.

At the bottom of the hill Jay froze and wondered. "Ha losers" he laughed, "Come on Bob" he called, Bob puffed on behind, and both of them headed for the graveyard.

The graveyard had an electric fence two years ago but it had been smashed, it still lay on the ground flattened and twisted.

*"You reckon trespassers done that?"
Bob questioned as he recovered his
breath.*

*But Jay was already inside the
graveyard. "Hurry up," He shouted
as he faded away in the blackness of
the dark.*

*He rubbed the dust away from a
gravestone and watched the dust fall
to the ground, the words on the
gravestone spoke beware of
graveyard, the sign on the gate said
the same thing.*